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THE MONIST

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OF SCIENCE

VOLUME XXXVIII

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THE MONIST

THE RESTORATION OF SCIENCE

SCIENCE has to be replaced, where she was at the beginning, in a central and integral position in human thought. The false and mischievous antithesis, which has long been current—perhaps more in England and America than elsewhere between "science" and the thought which gives us literature, religion and the greater part of what is now generally known as "philosophy," must be surmounted. There are still contemporary and serious writers who would treat science as a clever and powerful instrument for extracting secrets and riches from nature, but essentially materialistic and alien from their lines of thought and that frame of mind which puts us in contact with the infinite and eternal, which elevate our being and should direct our actions. Science, in short, to such thinkers belongs to a lower and temporal order; art, religion and philosophy arise from and should possess the higher nature. No doubt the deeper and truer view is now making itself heard more strongly, but the false and shallow one remains and is a grave obstacle to intellectual and even social progress; to understand the problem and its solution, we must turn back and trace it to its source. Now in the beginning, whenever that was, there was no such division between "science" and other departments of thought,—art, religion, or philosophy. In the most general sense, of accurate thinking based on observation, the earliest men were scientific, in studying the habits of the animals they chased or the dangers of nature from which they protected them-

selves. At the next stage, from which the Greeks directly derived the raw material of their science, science, so far from being divorced from religion, was actually pursued for religious purposes. This was the science of the ancient priesthoods, especially in Egypt and Babylonia, who arranged their calendar of religious festivals by observations on the movements of the heavenly bodies.

The first suggestion of any antagonism between scientific and religious thinking came in Greece, when men like Anaxagoras and Socrates were arraigned for teaching which seemed to conflict with the established beliefs and practices of religion. This early opposition however, was by no means comparable to the later alienation of science from philosophy or religion. With Anaxagoras or Socrates the new thought was working *in pari materia* with the old; it was criticizing and transforming old conceptions of world-forces, but not in the modern sense attempting to set up another set on a lower level. Socrates spoke with the utmost reverence of the gods and "the divine" and found a new source of divine inspiration in his own conscience. It was not as materialist but as reformer and revolutionary that he and others like him were attacked by the conservative mob of Athens. Such recasting of fundamental beliefs will always go on so long as men continue to think about their beliefs and try to make them square with their reason.

Where then must we look for the beginning of the divorce? First, to the division between philosophy and science which followed Plato, and is to a large extent the sequel of his system, or at least of that system as interpreted by the bulk of Platonists. Plato taught, or was supposed by most of his followers to have taught, that philosophy led the mind to the contemplation of a world of ideas

apart from, and superior to, the data of sense with which our daily thinking is concerned.

The Platonic tradition therefore became, apart from its value as stimulating high thinking on the spiritual plane, a barrier between science and philosophy and religion.

But other causes, during the decay of the old Greek world, tended in the same direction. In the first place the springs of science itself were from various reasons temporarily dried up. Triumphant Rome was absorbed in other cares, and for a thousand years Western Europe contributed little to the advance of science. This left the field open to the commentators and the theologians who built up the fabric of Aristotelianism and scholastic theology which had to be assailed in front by the men of the new science at the Renascence. But there was yet another cause, which we may trace directly to the Greeks themselves. Science, that is inquiring about things and increasing knowledge, was always held in high honour among them, but not the application of the knowledge so acquired to practical uses. Industry and trade, the service of human bodily necessities and the exploitation of the earth, fell more and more into disrepute as philosophy became regarded as a spiritual and super-material function. Trade was mechanical and all mechanical functions were base, and the increasing abundance of slaves in the Roman world provided the human implements by which, in accordance with Aristotle's theory, mechanical work could be done. Slavery in the ancient world and its disappearance in Europe by the time modern science arose, are the chief social causes of the different relations between science and industry in the two cases. In the modern world Homo Sapiens and Homo Faber have joined hands, and the amazing transformation scene in which we live, is the result. But the greatness of the success has brought evils in its train. The speed and sweeping nature of the changes have increased the cleavage

which we saw was opening in the ancient world between science and the other sides of human thought. Religion moves so slowly that we are witnessing at the moment a few trifling alterations in the English Prayer Book presented with great diffidence by the authorities of the Church and with an assurance that they do not involve any change in the doctrines which remain firm and unaltered. Nor does literature as a whole show much greater signs of having absorbed the new ideas or of sharing in the new advance. In history, as we shall see, a movement is taking shape, but it is still in the earliest stages and seems to the bulk of historians an impossible if not undesirable revolution.

In some quarters the triumphant practical advance of science and the consequent industrialization of the world have created a reaction, and driven the defenders of the older ways of thinking, which they regard as the truly spiritual, into the deeper recesses of their own spirits. To such thinkers the example of Indian philosophy and the discipline of Yoga seem a shining beacon. Turn the mind inwards, they say, and the true light will appear. To them and to the one-sided Platonist the evidence of the senses, the colour and glory of the world, are fleeting and deceptive; only in the security of our own consciousness can truth be reached, and the more we abstract ourselves from the flux of time the nearer we approach the eternal truths. The hopeless stagnation of Indian thought and practice pursued on these lines is patent to all, and non-co-operation must break down as surely in philosophy as it is doing before our eyes in politics.

There is of course another road and this has been brilliantly pointed out to all thinking people; to philosophers, scientists, historians and poets alike, by Professor A. N. Whitehead in his recent Lowell Lectures on "Science and the Modern World." It is one—perhaps the most interest-

ing—of many recent attempts to bridge the gulf of which we have been speaking, and it calls for special attention both on account of the eminence of its author and because he makes a novel approach from the point of view of a mathematical philosopher, imbued with the new relativity spirit and trying to embrace all sides of human thought—art and literature as well as science and philosophy in a fresh synthesis. We will say a little more about this later; but before that it will be well to see what has led up to it.

The divorce was most complete at the end of the eighteenth century. That period, which we may regard either as the age of the French Revolution, or of the revolution in industry, or of a new Romantic movement in literature, was from every point of view a turning point. Perhaps in the long run it will be found that the aspect treated in this article is the most fundamental of them all. There can be no doubt that the climax in the alienation of science came then. The mechanical view of the universe which had been developed from the work of Galileo and Newton, began to be extended to man himself. Our physical organization was supreme and science appeared as a rival, fatally and hopelessly divided from the synthesis based on religious revelation or the imaginations of the poets. But from that moment—the turn of the centuries—the tide of thought also turned, and we may trace the growing change through the nineteenth century on parallel lines alike in philosophy, science, religion and art.

The work of the positivist school, and in particular of Comte, has often been treated as the culmination of the divorce, the extreme point reached in the mechanical and determinist outlook. But this is a partial and misleading view. It was in fact Comte who first perceived and brought into prominence the impossibility of a permanent alienation between the two sides of thought and the constant evils that arose from its temporary maintenance. He more than any

other thinker demanded a return to the unity of thought which marked the earlier periods when as with the first Greek thinkers philosophy was understood to be the master science and to cover all.

This is in fact one of the two leading ideas in Comte's mind, and the other was the establishment of an effective alliance with religion based on the essential elements both in religion and in science. It is now generally assumed that this attempt has failed and it is often treated as negligible or absurd. But when one reads any recent book dealing with the same general range of ideas the question which occurs most frequently to the mind is this, Could this possibly have been written without the previous writing and influence of Comte's philosophy?

Certainly to the historical student of the restoration of science to its integral place in thought and action, Comte's work in the early part of the last century is the turning point and central fact. We shall gain, therefore, most light on the whole question by summarizing briefly Comte's aims on both sides of his work, and showing, not wherein he failed but wherein he fell short of our present views as represented by Prof. Whitehead; and then turning shortly to the third aspect on which Whitehead is himself so earnest and enlightening, viz. the connection between art—and especially poetry—and science.

Integrating science with philosophy is the first and fundamental task, for this would give us unity of thought. Integration with religion would then follow with the spread of education, for true thinking is ultimately irresistible and the real driving force of human progress. Comte first saw the supreme importance of both problems and made invaluable contributions to their solution, but he was hindered by two drawbacks. He stood too near the old mechanical synthesis which had given science its triumphs in the two preceding centuries but was on the point of

being enlarged, if not superseded, by biology and relativity. And, being himself a pure mathematician, he took the too limited and exact view to which the mathematical mind is always and naturally inclined. We will consider the disadvantages of this in a moment, but, on the other hand, how great is the gain! It was the sharp-cut and definite outline of the first physical synthesis which gave it the conquering impulse of three centuries, not yet exhausted. Comte inherited this power and extended it for nearly another hundred years to the wider sphere of moral and political activity which Newton and his immediate compeers did not touch. But he suffered in another way from the rigidity of his mind. Not only was he too near and therefore too directly under the influence of the builders of the mechanical theory, but also he was too ready to condemn and distrust the use of mental powers by others in a way which did not obviously fit in with his own accepted view. Astro-physics is the notorious case of this want of open-mindedness and confidence. A new branch of science was coming to the birth, just as Comte died, which was to extend our knowledge to undreamt of fields and ultimately to lead the way to a more profound synthesis than the pure mathematicians had been able to accomplish or conceive. Not only did Comte ignore all this, which was inevitable, but he scouted the possibility and discouraged the attempt. It is the classical example of the danger of a closed system, but should not blind us to the value of the actual work done and the seeds sown within the area he had marked out. This was of profound and far-reaching scope.

First comes the insistence on the need of making philosophy scientific and science philosophic, in a word, of integration. The necessary result of the divorce which had persisted for so many centuries, and which is still extant, was that philosophy became purely "metaphysical" in

Comte's sense of that word or purely critical. He tended therefore to identify the two very different frames of mind and spoke of a critical phase of philosophy as one which dealt with supposed "entities", not verified by observation. This, in itself merely a piece of unfortunate nomenclature, had the misleading effect of spreading the view that there was no legitimate and highly necessary function of criticism to be performed by philosophers, properly equipped with scientific and historical knowledge. It is of course one side of philosophic thought and only to be deprecated when it professes to be the chief or only work of the philosopher. It was Comte's greatest service on the theoretical side to point the way to a real philosophy on the lines of the earliest thinkers, and incorporating all the generalities of subsequent thought. Men have often dreamt of a "scientia scientiarum", but no one before Comte had perceived the true lines of its construction, resting on mathematics and reaching up to the highest and most special "laws" relating to society and human nature itself. No one could maintain that he completely achieved this supreme structure; no one can deny that his vision of its need and possibility was the most penetrating and influential in modern times.

He had no sooner grasped this master-thought than he went on to the other side of the great work of integration which we have seen to be necessary, if harmony is to be brought into public or private life. There is no need here to discuss either the reality or the characteristics of "Ages of Faith"; nor are we concerned with the merits of Comte's own "Religion of Humanity". The particular form which the synthesis may take is another question, and Professor Whitehead sketches in moving, but somewhat vague and contradictory terms his own ideas of a religion permeated by science. The point to Comte's credit is that he saw the need and gave a brilliant and powerful sketch. All thought and action were to centre round the capital conception of

Humanity. We have yet to see whether any other master-thought—the Universe, or Infinite self-realization, or God, re-interpreted in one or other of the thousand later forms —can actually bring thought together and inspire to action as well or better than this. Obviously it is very largely a question of language and of philosophical definition; obviously also the more completely satisfactory synthesis has not yet been framed.

The end of the eighteenth century, the time of Comte's youth, was, as we mentioned above, the period of the most acute antagonism between the old religious order, the Catholicism of the Continent, and the new aspirations awakened by science. The divorce had become an open feud. Comte strove to compose the quarrel by every means of approach, besides framing his own new religious synthesis on the basis of Humanity. He tried to form an alliance with the Pope and sent letters to the Head of the Eastern Church. At home he welcomed the efforts made by certain liberal thinkers to inspire a new spirit in the old Catholic order. Lamennais and De Maistre were harbingers of a better state of feeling in which it might be possible for a definite and effective religion, even if it used the traditional worship and forms of thought, to make common cause with the followers of a religion based on science. His view in this matter also was necessarily limited by his environment, and he took no account of the permeation of the looser forms of Christianity, outside the Catholic Church, by the new ideas due to science. The sequel has shown that it is in this region that change is easiest, and that Christianity of an undogmatic type may survive indefinitely, and become the channel of a humanitarianism only to be distinguished from Comte's religion by its label and the less strictly ordered nature of its creed.

It was in Protestant countries too that the permeation of literature, especially poetry, by science, was first con-

templated and attempted. Goethe stands of course pre-eminent in this respect, but Shelley and Wordsworth are evident witness of the change that was taking place. Professor Whitehead calls attention to this and makes interesting quotations both from Wordsworth and Shelley. but he oddly omits all reference to Wordsworth's famous Preface to the second edition of the "Lyrical Ballads" in which the whole question is thoroughly discussed, and Wordsworth looks forward to a time when poetry will be as naturally pervaded by the ideas and discoveries of science as Homer was by the fire of war and adventure or Virgil by the glorious rise of Rome.

"If," he says, "the labors of the man of science should ever create any material revolution, direct or indirect, in our condition or in the impressions which we habitually receive, the Poet will sleep no more than at present; he will be ready to follow the steps of the man of Science, not only in those general indirect effects, but he will be at his side, carrying sensation into the midst of the objects of the science itself. The remotest discoveries of the Chemist, the Botanist, or Mineralogist, will be as proper objects of the poet's art as any upon which it can be employed. . . . If the time should ever come when what is now called science, thus familiarized to man, shall be ready to put on, as it were, a form of flesh and blood, the Poet will lend his divine spirit to aid the transformation, and will welcome the Being thus produced, as a dear and genuine inmate of the household of Man." And he gives the philosophic ground for holding that this intimate alliance of Science with Poetry is natural and permanent, for "the Poet works by creating in the minds of his hearers or readers that degree of pleasure which is inseparable from sympathy with the complex of ideas and sensations which surrounds us all, and which the Poet idealizes and evokes. . . . Poetry is the breath

and finer spirit of all knowledge, the impassioned expression which is on the countenance of all science."

It cannot be said that the alliance has yet been consummated; it does not stand out as a bright and recognized fact in the consciousness of mankind, though signs of advance to the goal are not wanting. Sully Prudhomme, who in 1906 was still lamenting the little influence exercised on the inspiration of poets by the conquests of science, was himself perhaps the poet who had felt the inspiration most deeply. The expansion of thought, the new greatness and yet the apparent futility of man, the conflict of impulses and ideals, all this—the direct fruit of science—is found reflected in his work even more than in Tennyson who stands nearest to him in this respect. Professor Whitehead quotes appositely from Tennyson and puts him in the right English succession after Shelley and Wordsworth and going back to Milton. Each of them, while not working under the conscious inspiration of science, which Wordsworth predicted and Sully Prudhomme accepted, bears yet the clear impress of the scientific and religious outlook of his time. Milton, setting out to "justify the ways of God to man", Wordsworth moved by the eternal underlying unities between Man and Nature, Shelley, following the thread of infinite change and mystery in things—the lesson of the laboratory—Tennyson torn by doubt and conflict, the child crying in the night, but yet clinging to the "larger hope".

Whitehead might have added, and we ought to add here, the gallant and inspiring effort of Alfred Noyes to present in epic form what is in fact the greatest epic in history,—the discovery of truth, in the lives of some of its most dramatic discoverers. For "The Torch-Bearers" is undoubtedly the most distinguished work in English on the lines foreseen by Wordsworth in his Preface.

Mr. Noyes's epic, while it links up science with poetry, opens also another, perhaps the best way of all to establish-

ing science as an integral part of our mental outlook. His poems, besides their dramatic and personal value, are vivid chapters in the history of science. Now history in a wide and vital sense is a fundamental part of the process of education and will envelop it more and more as time goes on. This is clear from the very nature of education itself. In educating each rising generation the adult community passes on its own structure and ideas, and aims at enabling the new-comers to take up the work of the past and develop the existing system to a higher point of richness and efficiency. This is a historical as well as an educational process, and, to be in any sense complete, must involve introducing the learner to the scientific as well as other parts of his human heritage. Some people, struck by the way in which each individual reproduces biologically the chief phases in his animal history, have thought that the whole educational process might take an evolutionary form and lead the child on from being a simple savage through the stages of fighting and making and thinking to the full stature of a modern man. It would be a painfully elaborate and impossibly slow procedure, but the idea, like all ideas based on substantial truth, may give us guidance at various points in the upward path. It prescribes, for instance, that simple and practical activities should precede the abstract and philosophical thinking only possible at a maturer age. In particular it teaches us that as every great construction—whether a state, system, or an engine or a scientific theory—is the result of generations of consecutive toil, so we can only understand it by following its genesis. We understand ourselves only by studying our own history, and the same must be true for every part of the work which makes up the whole achievement of man, or rather is humanity itself.

The idea has long been adopted and often illustrated in other parts of human activity, especially in the growth of

civil government and the building of states. Lucretius two thousand years ago described the primeval savage fighting with tooth and claw and gradually learning the arts of peace, and every school history for generations has painted the early Britons with woad and attempted to portray their rise under successive conquerors to the empire of the seas. But the similar growth of science as a continuous, connected and organic thing was never understood until the last century because of its temporary lapse with the decay of the Greek genius and the decline of Rome. The Roman Empire and Roman Law never became extinct, but Greek science was for a time forgotten, and, when first remembered, was thought of rather as a special manifestation of their speculative ingenuity than as the foundation of all systematic thinking, the first step in the ordered structure of the human mind.

The story of modern science was entirely different. It began with the revival of Greek studies, but it enlisted from the first the co-operation of all the adolescent nations which sprang from the ruins of Rome; and—a point at least as important—it was from the first in close and fruitful contact with industry and the arts of life. When at last it was seen, by the end of the eighteenth century, to have in it the power of uniting mankind practically and transforming society, men began to turn back to the early stages of a growth which had led to so amazing a result, and found in them the germs and explanation of the sequel.

It is no mere accident that our own Whewell's *History of the Inductive Sciences* appeared almost exactly at the same time as Comte's Positive Philosophy. Comte's capital work was published in 1830, Whewell's in 1837. Comte's work had far the wider sweep; he aimed at showing the whole process of thought and action in the past as being determined by the growth of "positive" thinking, i. e. of science. Whewell, like most Englishmen, was less

completely systematic; he remained a convinced theologian and a conservative in politics. But so far as science was concerned he pointed out for the first time in a connected treatise that history was the true way of approaching its method and understanding the philosophy. He was the father of the history of science, but of science as an independent activity, continuous in its own development but without the vital connections with other sides of history which we are now striving to establish as facts and exhibit in writing and teaching history.

It is interesting to trace in all the newly-written histories of the Modern World the space which is assigned to the rise and influence of the scientific spirit, and to note whether the writer has any inkling of the true connection of thought and action in the matter. To take the most obvious example from the eighteenth century: the reforming monarchs and ministers before the Revolution, Frederic the Great, Joseph II, Pombal, Aranda and the rest, besides the *philosophes* in France, were all inspired by the new enthusiasms and beliefs engendered by the scientific outburst of the seventeenth century. Does the particular historian we are examining see this and bring it out in his narrative of events? It is a simple test but an infallible one. The book which lies on my desk at the moment, and is in many respects admirable, published by the Oxford Press, fails rather unexpectedly in this point, while the recent splendid volumes by the American historians Breasted and Robinson (*The Conquest* and *The Ordeal of Civilization*) allow for the connection both in ancient and modern times even if they do not develop it sufficiently. For this reason alone, though they have many other merits, they will succeed and the light will spread gradually, even in England. The World War and the League of Nations have impressed indelibly on the public mind the nature of scientific organization, and the fact that we are now all bound

together by links that have been forged by the successors of Galileo and Newton. In the nineteenth century and after, the connection is unescapable, and we may hope that link, once perceived, will later on be traced back through all its strands to the Greeks, the Egyptians and even the first savages who counted their fingers and founded the decimal notation.

The committee appointed some few years back by the British Association to consider the teaching of the history of science in schools has had some effect and references to history, and the historical method of approach, are now much more frequent in scientific text-books. Many, like Mr. Hector Macpherson, in his recent *Modern Astronomy*, are able to give quite a sufficient general view of their subject in the lives of those who have built it up, and this presentation, though not necessarily the best at all stages or for all subjects alike, has a strong additional human interest. It is a vertical section of history and may lead students who hear of Kant and Goethe as scientific thinkers, to pursue them afterwards into some other branch of their activity.

All this is to the good; yet the larger task remains to do. History is still regarded as primarily an account of past politics, and those who write the Memoirs of a Palmerston still stand in another class from those who discuss the work of Newton. Nothing will do more to promote the unity of thinking, and restore science to its original place as the keynote of human action, than the spread of the way of looking on history of which the work of Messrs. Breasted and Robinson is the latest and one of the most favorable examples. We are told by a recent philosophic writer[1] that we live now in an age of history and that history has supervened on religion and science, permeating them and taking them up into higher synthesis which will be crowned in the

[1] Mr. R. G. Collingwood, *Speculum Mentis*.

end by an ideal philosophy in which all will be united in an all-embracing consciousness. This may be so for a very small number of the élite, but generations must elapse before even the bulk of the educated classes have learnt to view their science historically and many more before mankind as a whole has acquired the preliminary scientific training which enables us to adjust our actions truly and fit mankind and nature into one harmonious scheme. Thus to link science and history, in our habitual thinking and in teaching both, would do more to hasten the unification of thought and action in the world than any other thing.

The change is approaching. Both scientists and philosophers are ready to welcome it and in many cases taking active steps to connect their isolated position and come into the main stream of human progress. The political historian has up to the present been less affected by the movement and it is his aloofness, especially in England, which remains the great obstacle to union. He distrusts and avoids generalizations and the connection which is here advocated, with other branches of thought or research savors to him of the most dangerous and least well founded generalization. "Let's stick to our own job and plough our own field;" that is the motto, and so long as nothing is done either within or outside the pale of technical "historians" to bridge the gulf, to frame these connections which are so much distrusted, so long will the separate disciplines and interests dominate both in the schools and in the public mind. Hence let us be thankful to bold men like H. G. Wells, and the still better equipped Robinson and Breasted, who face the obloquy of sciolism and superficiality, and the inevitability of occasional mistakes, to get the good work going.

To sum up this last, and from a practical point of view, most important aspect of the subject, science began in a prehistoric age. If we date it only from the Greeks, it ap-

peared among them before the "Father of History." It was the strongest intellectual current in the earliest days of its appearance, the centre of Greek philosophy and intimately connected with their social and political development. It fell away for more than a thousand years and unscientific thinking established itself on rival, traditional and independent lines. But from the stream of revived science has come in modern times the true historic spirit, involving ordered movement, the universal continuity of change, above all, what we know in human evolution as "progress". This is the fruit of science; and history, in this sense newborn, has now to return upon itself, and put back science where she once was, and must be again, at the heart of all serious thinking, the central thread of human life, the guide to sound collective progress in the future.

F. S. Marvin.

Welwya Garden City, England.

ALEXANDER'S METAPHYSIC OF SPACE-TIME. III.

III. Space-Time and Knowledge.

THE theory of knowledge "emerges" at its proper level in the Alexandrian hierarchy as a consequence of the spatio-temporal hypothesis which is its basis. Standing as it does for that phase of reality which is primary for us but derivative metaphysically it offers experimental evidence for the truth or falsity of the initial assumptions of the theory. If we find that knowledge, adequately analyzed and freed from false presuppositions, proves to be precisely the sort of thing the Alexandrian hypothesis would lead us to expect, if the fact of knowing is seen to be not an anomaly but a natural consequence in the world of Space-Time, we shall have additional grounds for accepting that theory. If this verification is supplied only in part, and for precisely that part of the theory which is grounded in relativism, and if further it is contradicted and finally superseded by just the sort of absolutism we have objected to throughout, the result will stand as evidence for the validity of the criticism we have already made for Space-Time and the categories. We shall find that the theory to be considered is in all truth the natural result of the Space-Time hypothesis, but hence of an hypothesis strangely divided against itself, the source of error as well as truth. Space-Time is indeed the matrix and progenitor of this epistemology, but we shall be re-

minded that the sins of the parents are visited upon their children, even unto the third and fourth generation.

Again we start with a thorough-going condemnation of bifurcation in all its forms. That curse of epistemology, the "real" object which is not relative to its appearances but remains self-complete beyond them, is quite definitely eliminated. The thing known is the synthesis of its appearances and contains no element not given in experience. Transcendence does not imply a reference beyond the experienced world but simply the continuity and relatedness of experienced objects to each other. Nowhere do we find a favored absolute which possesses a simple and self-complete constitution. Even the "real appearances" of a thing belong to it in specified relations, and, if reality is intrinsically temporal, can only so belong to it. For then the time differences which result in varying apparent shapes are not mere mistakes to be subtracted in order to get at the reality but rather are essential phases of the spatio-temporal reality itself.[1] If "objects" are the appearances of a thing, the thing itself is their unity in a single spatio-temporal locus and nothing more. "The unifier that makes a thing a thing is its space-time."[2]

And just as the thing must not be separated off from its appearances as though it could exist behind and apart from them, so the appearances must not be taken as self-complete. The view that a thing is just the class of its appearances is explicitly rejected.[3] In a sense each appearance does point beyond itself, for it is intrinsically related to others through the space-time they jointly occupy and this relatedness is essential to it. This is the real import of Alexander's novel theory of intuition, the assertion namely that "instead of supposing that extension is a partial character of a color or a touch, we may suppose

[1] *S. T. D.*, II, p. 196 and following.
[2] *S. T. D.*, II, p. 183.
[3] *S. T. D.*, II, p. 196.

color to be a character of the extension, that what we see is not extended color but colored extension."[4] And this connecting extension to which all sensa intrinsically refer and in which they are unified is given directly through intuition. "Sensa" are not to be treated as little substances extrinsically related, as on so many realistic theories of the "new" variety; they are characters of the spatio-temporal unity in which they are connected. The relativity is thus reciprocal.

Hence Alexander seems to have avoided both the perilous extremes of epistemology. The thing is relative to its appearances or objects, and even as barely spatio-temporal it is to be taken as a synthesis of perspectives. But equally the appearances are relative to the thing and are given as characterizing it, not as characters of themselves as on the sensum theory. Objective relatedness is not a fact to be explained away by a retreat to a self-complete thing or to sensa only externally related; it is the basic fact which explains both the immanence of knowledge and its transcendence.

And hence we can see the meaning of that great saying which is the crowning glory of the Alexandrian theory, the assertion that knowledge is compresence, and hence an instance of a type of relatedness which is basic for reality as a whole. Taken in itself this is a hard saying, but when we recall the meaning of compresence upon even the Space-Time level it appears very well founded. For two point-instants in Space-Time are never together simply but are variously connected by the perspectives in which they lie. The point-instant of reference is not together with all other point-instants in the same sense; if it were, Space-Time would be as ruinously blank as pure Space. Its compresence is conditioned by interaction, by the lines of advance which connect it with the rest, and hence it will

[4] *S. T. D.*, I, p. 38.

relate the world from its own standpoint. Compresence is not mere togetherness; it is togetherness and distinctness, and means that while each point-instant is a part of the world it is compresent selectively and after its own fashion.

When we reach the level of knowledge we discover an analogous situation. Knowledge is a way of being together with things. The ruinous assertion that knowing somehow cuts us off from the world is contradicted by the very evidence on which it is based. The relativity of knowledge is the proof of our relatedness. If man were lifted above the world and outside its vicissitudes he might expect to inspect its absolute constitution. It is because he is so indubitably interacting within it that his knowledge must be relative. And so with Alexander the fact of perspective is based and grounded in interaction. Not only is knowing in this sense a way of being together with things, the perspective *is* the reality in that relation. "For a perspective of Space-Time is merely the whole of Space-Time as it is related to a point-instant by virtue of the lines of connection between it and other point-instants."[5]

Selection is equally central. It is the real world with which the knowing mind is together, but it is together after its own fashion. Just so a point-instant is variously related and a perspective from its instant will show the world in that context. The individuality of the center of reference determines the selection, being what and where it is, it maintains a unique standpoint. And this is not an anomaly to be explained away; it is required for that very distinctness in togetherness which was seen to be essential for reality itself. Point-instants are compresent because each is connected with the rest from its own standpoint; each determines a common world from its own point of view. The relation is always immanent, for what is thus related

[5] *S. T. D.*, I, p. 77.

is the very world itself, not a duplicate or image. Yet it is always transcendent, for there are other points of view and each is intrinsically relative. And the relation that distinguishes them is also the relation that connects. On this basis there is nothing paradoxical in the dictum that "Cognition then, instead of being a unique relation, is nothing but an instance of the simplest and most universal of all relations."[6]

To the writer this seems a great contribution to the theory of knowledge. The root of our problem has been the apparently anomalous character of knowledge. Itself quite clearly relative, it has seemed out of place in a world of absolutes. We ought to know objects in themselves, but we do know them only relatively, hence there is something wrong with knowledge. Either its relativity or its objective validity must apparently be surrendered. If Alexander has shown us that such relatedness is not an anomaly to be explained away but the basic fact about reality, his service has been great. For knowledge is compresence, interaction, and in such interaction mind is together with things from its own standpoint. Hence no mere registration of an external environment is to be expected, much less the fabrication of a new one. The alternative is at least promising.

The remaining problem is to give full value to both the distinctness and togetherness implied on the level of mind, and our author has carried this out with great ingenuity. *All* appearances are and of right ought to be relative. They are "selections" from the world and must be. For even if all mental and physiological peculiarities were eliminated, the fact of variations due to position in Space and Time would remain and we have seen that this is of the very being of reality. "Real appearances" are such as involve this basic relativity but no other. Variability in shape is

[6] *S. T. D.*, II, p. 82.

accounted for on this basis. Since light takes time to reach the eye it follows that an illuminated disc will appear smaller at a distance since "at a greater distance the time-interval between the end and the center is reduced, because the distance of the ends from the eye, the path which the light has to travel from them, is increased relatively less than the distance from the center is. Consequently the ends are later than the center by so much less when the disc is far off than when it is near. We see a smaller disc because the disc occupies less time under the conditions of vision."[7]

The point to notice is that on this theory there is nothing surprising in such variability. It does not argue for some intrinsic defect in knowledge but follows from its basis in reality. In a spatio-temporal world the apparent shape ought *not* to be invariable from different standpoints. There would be something radically wrong if it were. For spatio-temporal relatedness is a genuine fact and the relativity is a function of such relatedness. Such selectiveness is a function of compresence on *any* level and thoroughly to be expected here. You do not get at the reality by subtracting such differences; without them the thing would have lost its temporal reality. "Mere appearance" introduced a further relatedness to other things. Again the principle is the same. A stick in water ought to look bent and a person who saw it otherwise would need to have his eyes examined. In that relation the given character holds and there is no mistake about it. We have what Whitehead would call a three term relation. If we took it as a two term affair, if we supposed that the stick was bent in itself, there would indeed be error. But that would be to ignore the very relatedness which has been taken as basic throughout. Even in illusion there is no error. A further relation is introduced and we have to deal with the

[7] *S. T. D.*, II, pp. 196-97.

peculiarities of individual minds. But once more, *in that context* the given object is real, it is a fact about the world in its relations to a given mind and follows from the connections of that mind with the world. Again, if the relation is forgotten there is error, but the purport of this view is to indicate that relations are not to be forgotten.

The togetherness involved in knowledge is equally central and equally grounded in Space-Time. When Stout raised the question as to how such variable appearances could be correlated with a unitary world, the answer was emphatic. "Any object of mind points to or means other objects combined with it in the spatio-temporal unity of the thing and any mental object is from the beginning spatio-temporal and implies a piece of space-time within which it belongs."[8] The connectedness of objects is thus implied in the very fact of their spatio-temporal character, for to be spatio-temporal is to be connected in Space-Time. And this connection, if the pun may be pardoned, is of the very stuff of the appearances themselves, on Alexander's view. If they were initially self-sufficient like Santayana's essences their connection would be a great problem; here it is the most natural of consequences. "Now if extent does not belong to color as such, but to colors as seen in their places within an extent, and the like is true of touch, it follows that when we apprehend the same object by sight and touch we are apprehending the same extent. There are not two distinct spaces which have to be connected by custom or otherwise, but one space which is the scene of different qualities."[9] Thus, when we see an orange, its hardness and other sensible qualities are suggested because all these qualities belong together and each is given as occupying the common extent in which they are united. Nor is the togetherness incompatible with the distinctness of

[8] *S. T. D.*, II, p. 99.

[9] *S. T. D.*, II, pp. 164-65.

varying perspectives; taken in their context they belong together of their own nature and the connection is not imposed from without but follows from the very relatedess to which their individual "relativity" bears witness.

Finally in *true* knowledge we have the account completed. Any spatio-temporal relatedness implies compresence, but minds are of a special quality and character and hence are not merely together as spatio-temporal but as minds. And this is the basis of truth. The context thus developed supplies a new reference, that to a "standard mind", to the "cooperation and competition" of different minds and the harmony of judgments between them. Thus truth is an affair of coherence and no judgment bears its validity on its face or in correspondence to some absolute reality, but rather in its connection with other judgments. Its transcendence is relatedness within a single world, not a leap beyond it.[10] Truth is thus not additional to reality, it is a new form of relatedness within it. The world as known truly is the world as possessed by mind in its relation to other minds; it involves a new sort of relatedness, not a new kind of being. Never was bifurcation more clearly rejected. "It seems to be thought that values because they do not exist without minds are similarly subjective, and with nothing in reality corresponding to them. But for us mind is one of the realities, and is itself in the end of Space-Time stuff. Values arise in the relation of these realities to other realities, in virtue of which a fresh reality is constituted. The mind is the highest finite reality we know. Strange that its touch should be thought to derealise its creations."[11]

All this is perfectly consistent with the position so far established. If relations were not taken seriously then to make truth depend upon a specific relation to mind would

[10] See *S. T. D.*, II, p. 252 for this criticism of the correspondence theory.
[11] *S. T. D.*, II, p. 245.

be to compromise its objectivity. But once it is realised that Space-Time itself involves just such relatedness, which is thus thoroughly objective, that misconception is avoided. Nor can it be said that the cooperation and competition involved in reference to a standard mind introduces an alien principle. For compresence has meant just that from the start. "Within Space-Time we can properly identify the relation of point-instants to one another with that of persons to one another, which are assured of each other's minds not by contemplation nor enjoyment of foreign minds but by that experience of cooperation or competition which may fitly be called social. There is a society of instants which are minds established through their connections in space."[12] There is assuredly some mythology here in substantializing point-instants, but the relationship involved is strictly analogous. Interaction is the basis of distinction and connection between perspectives of Space-Time and the unity of such perspectives involves a standard in reference to which they are combined. This is a point upon which Whitehead has frequently insisted.[13] To be sure the specific relation of coherence is new; that is to be expected, since minds, like all other realities, are together after their own fashion. But the principle is identical. Each individual mind "repieces" the world in its own way and from its own standpoint, but all its judgments refer beyond themselves to a unity in which they find their place. Truth exists only in its various individual manifestations: the "standard mind" is no additional entity but just the coherence of judgments, their harmonious relatedness. And similarly Space-Time, if it is truly a synthesis of perspectives, *is* the harmony of togetherness of many viewpoints according to a single law or set of equations which is valid for all.

[12] *S. T. D.*, II, p. 41.

[13] Cf. especially *The Principle of Relativity*, Chap. 2.

But again, the story is less than half told. For Space-Time for Alexander is ultimately not such harmony of perspectives at all. It is rather an absolute prior to relations, a "One" which is not the standard but the stuff of which the perspectives are made which belong to it as parts or as pieces. And compresence is not ultimately this structural unity of different stand-points but a prior unity which excludes differences, an affair of simple location of points at instants and vice versa. Mind is then together with things and things with each other as being in the same container, and interaction gives way to occupation as the clue to relatedness. Hence the emphasis on mere contemplation as the essence of knowledge, where mind is along with things but makes no difference to them. And hence the anomalous character of truth where mind *does* make a difference and which consequently appears radically different from "knowledge" as such or as compresence.

The steps in the downward path parallel the principles thus far maintained and flatly contradict them in each case. First we saw that on this theory all appearances ought to be relative because they are at least spatio-temporal and merely as such thoroughly relational. Now we see precisely the opposite. As spatio-temporal, things ought not to vary with relations and do not do so in fact. It is only deception due to the qualitative character of sensation which makes them appear to do so. And this is essential to the theory as a whole. For the unity of appearances cannot for Alexander be the concrete event they qualify. Neither can it be the harmony of appearances with each other. They qualify Space-Time and this is absolute and identical for all. There can be no doubt about this. All appearances are spread out over and contained within the *same* piece of space-time and this occupation is their connection.[14] Unless it were identical throughout, they would

[14] *S. T. D.*, II, p. 184.

not be connected. Hence the connection does in fact exclude differences so far as position, shape and other spatial appearances are concerned. The shape appears different under different conditions but it *is* not. Hence there is one shape which belongs to the thing simply, which *is* the Space-Time and the others are contained in it under the conditions of vision. We must examine the situation first of all for Space-Time itself.

How may we arrive at a single Space, starting as the theory does from a multiplicity of perspectives? What is wanted is clearly an identical framework in which the differences proper to perspectives will not occur. The connection between perspectives is to be something common or identical for them all, and, since a perspective of Space is differentiated by its dates, what is required is a "total Space" in which no such differences occur. Thus we find that "the whole of Space is the same framework as belongs alike to the real and the arbitrary selection from Space-Time at any instant; and the whole Time is the framework of the real and the arbitrary selection from Space-Time at any place."[15] Now these are the Newtonian Space and Time and as such our author is prepared to defend them against the relativist who interprets Einstein's theory metaphysically. Measurement is relative, to be sure, but over and above these there is a "total Space-Time which combines these worlds"[16] and in which such variation is not ultimate. "The length of the stick *in total Space-Time* does not change, but the dates of its points do, according to the perspective."[17] Consequently, "Time and Space in their ancient pure reality remain as the framework of history and the new doctrine is a new doctrine of their sensible measures."[18]

[15] *S. T. D.*, I, p. 82. This, of course, has reference to "total" space and time.
[16] *S. T. D.*, I, p. 91.
[17] *S. T. D.*, I, p. 88.
[18] *S. T. D.*, I, p. 91.

But we should be doing our author a grave injustice if we left the matter here. These pure frameworks do exist but they are not prior to perspectives, they are selections from them. For it was precisely this notion of a Space without temporal differences which was rejected at the outset and it cannot simply be reinstated. There must be a simple unity to reconcile differences but it is a unity based upon perspectives themselves. Thus we find that "In a single such perspective an instant is localized in only one position of space. But in the totality of them each instant is localized in all positions in Space."[19] Thus, by a judicious selection we can secure a Space whose points are all of the same date, and hence, in which no temporal differences are to be found. And so equally for Time. "Now when these particular selections are made of point-instants, the one from the total of one set of perspectives and the other from the other set, we have a total Space which occurs at one instant and a total Time which occupies one point."[20] Now it is specifically stated that these identical frameworks "do not represent what the world of Space-Time is historically at any moment or at any point. For at any moment of its real history Space is not all of one date, and Time is not all one point. And the result of the selection is to give us Space apart from its times and Time apart from its places. That Space and that Time are what is meant by the definitions of them as assemblages, the one of all events of the same date, the other of all events at the same place."[21] We must examine this statement.

Let it be observed (a) that in *no* perspective is there such an identical Space or Time. That has been definitely asserted and the selection by which such a Space is obtained

[19] *S. T. D.*, I, pp. 80-81. An instant may be repeated at more than one point in a perspective, as Alexander has since recognized. But it must not be repeated at all points, and that is the issue here.

[20] *S. T. D.*, I, p. 81.

[21] *S. T. D.*, I, p. 81.

is frequently described as arbitrary. Hence it would appear that the pure framework *cannot* possibly connect different perspectives by being identical in all, for it is not identical in any. (b) This arrangement is supposed to give us "Space apart from its times", and only thus can we speak of a Space without temporal differentiation, a Space other than that of a perspective. As a matter of fact it quite clearly gives us nothing of the sort. It has been repeatedly defined as "an assemblage—of all events of the same date." But to have the same date is by no means to have no date and simultaneity is as much a temporal relation as sequence. It is just because of its unique temporal character that "total Space" has been selected. And this clearly is not enough, for the Newtonian framework was to be reached by the suppression of differences; something common to all was to unite them. Hence (c) the flat contradiction of the whole construction. "Now alike in temporal and spatial perspectives the whole of Space and Time is given, though not all point-instants. The difference of one perspective from another is that points occur in one with different instants from another. But each contains all Space and all Time. That is why I speak of total Space or Time, each is only one and the same in all perspectives and in all sections."[22]

When it is remembered that total Space is "the assemblage of all events of the same date" the oddity of this is apparent. All perspectives contain an identical "total" Space, a space all of one date and so far they are identical, but they differ in that their points are differently dated! That is, they differ in precisely the respect in which they are identical. We start from the assertion that in no perspective does such identity occur; we end with the conclusion that it occurs throughout And the reason is plain; it is based on the confusion in step (b). What

[22] *Mind*, N. S., Vol. 30, p. 418.

Alexander was entitled to was a correlation between perspectives, a synthesis of differences. The one attained was by no means useful, but it was at least legitimate. Yet so far from eliminating the differences of perspectives it was based upon them. Just because they vary so widely and radically this arbitrary selection is possible. Then we treat this derivative unity as if it were primordial, something prior to differences instead of the result of them. It is not a synthesis of common times, it is Space *apart from its times*. Hence it can be included as a common container, the same for all, in the third act. And in this rôle it precisely contradicts the differences upon which it was based, for it demands that points be identical in date, else no "total" Space and equally different in date, else no perspectives. The unity required is the negation of the essential differences and there is no escape from that fact short of the assertion that events of the same date are at different dates.

It has seemed essential to dwell upon this aspect of the matter at some length because it furnishes the clue to the entire theory of knowledge. It is precisely the same difficulty which overwhelms the various types of appearances and for the same reason. Alexander cannot be serious with relativity. Whatever its seeming scope there remains always the "ancient pure reality" to which all these differences belong simply in virtue of their common and identical container.

Hence a new problem for knowledge. Over and above all relativity must be some form of knowledge that is infallible, in which the appearance *is* the reality as such. For the basis of connection is identity and this identity must be given in experience. Hence an attempt, not to explain relativity, as in the earlier account, but to explain it away. It ought not to be there; if we are to have some unity behind differences it must not be there. Alexander's

answer is two-fold, and each aspect has the unhappy consequence of contradicting the other. In each, some absolute is preserved, but not the same one in the two cases.

(a) Perspectives are relative so far as their qualitative content is concerned but they have an infallible reference to a unitary extension which is directly known and which *is* their connection. This extension is known through intuition and with it the "shape, size, and locality"[23] of objects. In knowing it we know the connection of objects, for it is their connection and they are given as occupying it. Hence intuition, and with it all the purely spatio-temporal properties of the things known, are absolute as given, and never do change, though they appear to. How, then, do mistakes occur with respect to this form of knowledge in which neither mind nor any other entity not purely spatio-temporal should make the slightest difference?

"The monad as such, as a mere point-instant, is infallible and any complex of them is infallible; that is, in reference to Space-Time and its elements and whatever complexities there may be in it of a purely spatio-temporal and non-qualitative character." But these spatio-temporal relations are known only through sensation. They are not sensed but intuited, but only in so far as the mind is awakened to consciousness through sensation is such intuition possible. "Hence the consciousness belonging to a piece of neural (that is mental) space is limited to the object which is presented in sensation. Though it possesses perfect 'knowledge' as spatio-temporal, of all parts of Space-Time, it is conscious only of the space and time of its object, and that object is a sensory one as well, and has secondary as well as primary qualities."[24] When illusion occurs, or even variation, it is due to the variation of secondary qualities. Thus in the case of variations in

[23] *S. T. D.*, II, p. 147.
[24] *S. T. D.*, II, p. 201.

shape, considered above. We then saw that, as spatio-temporal, there should be variation due to distance and to the laws of projection. We now see that there must not be such variation really . The shape is not different, even in the perspective, *as shape,* it is the *color* that shrinks with the distance, and since we sense the color we are seeing not the real shape but something less. "Thus while it is still the whole disc which is seen *in its full geometrical extent,* that extent looks smaller because it is filled with the qualified events of illumination and is only apprehended through them."[25]

Hence there is really just one shape, the "real" shape which "accounts for" the others and remains identical throughout, though it is seen differently under the conditions of vision. And similarly for mere appearances. When my face appears to be behind the mirror, I must not say that the place in which it appears and the place in which it really is are different places. "In the Space of touch and normal sight the whole of the space in front of the mirror which is not seen direct by the eye is as it were swung round so as to seem behind the mirror. But it is the same space under this mere appearance."[26] It *must* be the same, for the different appearances are connected by their identical place, and hence the image and the real face must be in the same place, though appearances are against them. The appearance *seems* to be displaced, that is why we call it a mere appearance. But it really is not displaced nor is it given as such. In combination with the mirror the same place is in a different place, that is all. We might well inquire, if a place has lost its position, wherewith shall we place it? If it were the identical quality differently placed in the two cases, there would be no contradiction, but here is the same *place* differently placed. And such displace-

[25] *S. T. D.,* II, p. 196.
[26] *S. T. D.,* II, p. 199.

ment, be it remembered, is a real and objective fact of the combination, as are all mere appearances. The parallel with "total Space" which had to be of the same dates differently dated will be obvious.

Illustrations need not be multiplied. Once you settle upon a single appearance, whether it be shape or position, as absolute, you cannot take it to be really and objectively relative in the same sense. On the level of relativism it was plausible enough to say that an event might really and objectively have different characters and different contexts. But we are no longer on the level of relativism. Now your real shape or position is really and identically fixed apart from relations and is to be the same in different relations. To say that it is in fact the same and yet also objectively different is the unfortunate consequence. The paradox about the same shape being a different shape and the same place in a different place is the inevitable consequence.

(b) There is another account of a quite different character. So far we have heard that qualities as such are relative and variable but that their reference to a single thing is infallible. The reference as such is never relative, only the quality referred. When we try to explain illusions a different version is offered and, after the fate of "mere appearance", it is not surprising. Objective relatedness, especially when mind is one of the terms, is viewed with great disfavor. The illusion must somehow in and of itself belong to the reality. Yet it cannot belong to it in the simple fashion so far considered; the illusory object is precisely *not* a character of the thing apart from mind, and that is its differentiating character. Whence, then, the absolute? It proves to be in the quality itself as apprehended. Doubtless its reference is mistaken, but *as quality* it is absolute and relatedness to mind makes no difference.

"So long as the object is contemplated in and for itself there is no question of illusion. When the mind goes on to refer these illusory objects, illusory in reference to the real thing, to the thing, then it is in a state of illusion, and we have an illusory appearance of the thing."[27] So in the mistaken apprehension of a grey patch as green: "The green by itself is not illusory; but the patch occupied by the grey, seen as green."[28] And throughout we find that illusion consists in misplacing appearances, seeing them where in fact they are not. There is no relativity so far as the appearance itself is concerned, it is that very quality which exists in the objective world in some other context; our mistake lies in so "squinting" at it that it appears to belong where it does not. "The mind squints at things and one thing is seen with the characters of something else."[29]

What then becomes of the theory of intuition? On that view the place of the object, which is the thing it actually characterizes, is given directly and is the one thing about which we are never mistaken as such. Now it appears to be the only thing about which we can be mistaken. There the reference only deceived us so far as the sensory content was deceptive, here the sensory content only deceives in so far as the reference is mistaken. The object "in itself" is absolute and appears in its own character, the mind "goes on to refer it" to the thing, and may be wrong. Yet if the intuition theory was right such reference is never the work of the mind but intrinsic to the object itself; the object is "spread out over the space which is apprehended with it." That was precisely the advantage of the theory. Instead of different objects which the mind goes on to correlate we have a single and identical extension given alike in all. But in reply to Stout our author says: "So far as the visual appearance is concerned, I know nothing about

[27] *S. T. D.*, II, p. 213.
[28] *S. T. D.*, II, p. 208.
[29] *S. T. D.*, II, p. 216.

the real place of my face as revealed to touch. That comes through a different experience."[30] The identical reference then is *not* a datum and the intrinsic connection is lost.

The source of the difficulty is clear. Only by making the reference intrinsic could we secure the requisite connection. But then an illusory reference would compromise the datum itself and relativity to mind would make a difference. And it must not. Hence we divorce the reference and treat the datum "in itself". And that contradicts the original relatedness. Nowhere can there be real relatedness, yet without it the hypothesis fails to hold together. And such is the ultimate outcome. The theory was to avoid the difficulties of a unitary and exclusive thing by making the thing a synthesis of its perspectives. It was to avoid "logical atomism" by refusing to treat "sense-data" as things in themselves and by recognising their inherent relativity. Instead of that we have both evils on our hands. Each aspect is relative to the other, each is treated as absolute. And as absolute each excludes the other and yet requires it. The price of absolutism is a high one, in all truth.

All this as a consequence of the fact that compresence has ceased to mean interaction, relativity, and has come to mean simple occupation. The appearances occupy but make no difference to the self-identical Space. The occupation, again, makes no difference to the appearances which are considered "in themselves" and apart from such reference. Mind is merely "together" with things in an external fashion. And such "compresence" is taken to be the essence of knowledge. Mind is related to its object as is the table to the floor it occupies. And the table seems to have the advantage as a "knower", for mind introduces new complexities which tend to shut it off from the absolute constitution of things.

[30] *Mind*, N. S., Vol. 32, p. 9.

This is finally and very clearly brought out in the antithesis which now exists between such "knowing" and knowing truly. For true knowledge, as we saw, introduces an inescapable reference to mind, and this relation makes a difference. Furthermore, true knowing implies a reference to a standard, and bare occupation suggests nothing of the sort. Hence the double meaning of the cognitive relation, which Loewenberg has indicated.[31] If knowing be mere togetherness, then knowing adds nothing at all to the pre-existing reality which is simply alongside of it. However, knowing, in the sense in which a man may perhaps know more than a chair, is not a way of being together with things, a principle grounded in reality; it is a new and alien principle. It adds an additional world outside of and discrepant with the reality itself; the world of mind and the world of nature fall apart.

The outcome for the theory of knowledge is thus precisely what it was for Space-Time and the categories. The absolute has many forms: it appears as unrelated point-instants, as blank extension, as "pure" Space. But its effect is the same in each case. To defend the original and valuable suggestions which Alexander has made to contemporary metaphysics against a contrary tendency which nullified them has meant to defend them against Alexander himself. The process has been devious and arduous. Its justification must be that there is no existing theory more genuinely worth defending.

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[31] "Is Metaphysics Descriptive?", in *Studies in the Problem of Norms*, University of California Publications in Philosophy, Vol. 7, p. 163 and following.

EMERSON'S DEBT TO THE ORIENT

I

FOR decades Americans have spoken of Emerson as a Boston Brahmin without much thought of the peculiar nicety with which the appellation fits. Some have vague ideas of a general analogy between transcendentalism and Hinduism, but the extent to which the former was dependent upon the latter for inspiration, imagery and doctrine has rarely been studied even by scholars. But the present revival of interest in Oriental thought, the gauntlet of challenge thrown down by many in behalf of the Buddha and accepted in behalf of Christ, and the growing feeling among those who are not indifferent to the world of the imagination or benevolently neutral about the supra-mundane, that there are elements essentially complementary between the Occidental and the Oriental worlds of thought, would warrant, it seems to me, a new study of the greatest spokesman of American monists and the grounds for considering him a true Brahmin. Furthermore, the interest in the Concord sage which must have been aroused by the choice of Bliss Perry's *Heart of Emerson's Journals* as a "book-of-the-month" cannot fail to be enriched by new light on Emerson's catholicity. The large task of boiling down all of the note books into one representative volume necessitated, obviously, the omission of much desired material; but the fact that all of Emerson's notes on the Oriental scriptures and thought have been de-

leted ignores the fact that much of the blood which passed through that heart came from the East.

It is generally accepted that transcendentalism was compounded of English idealism, German intuitionalism, and Oriental immanence. It is also accepted that the various Platonic schools of thought held a potent influence on Emerson. And much has been written in the past on all phases of Emerson's mind, save his acceptance of the doctrine of Oriental immanence. There, is the greatest dearth of information. The story of what a strong man, indubitably sincere and a genius, did with the ancient thought of Asia is one of the most fascinating narratives of the human mind and literary history. Emerson's was a true eclecticism, not an agnostic belittling of all faiths or an indifferent borrowing from many, but a clear-eyed, penetrating insight into the things which are the common longings, impulses and discoveries of all men, irrespective of creed or color, but covered up and hidden with much confusing verbiage.

At what age and by what means was Emerson first drawn into contact with the philosophies of Asia? What did he think of them? What did he read? How was his interest nourished? And finally, what did Emerson accept of the declarations of Upanishadic seers regarding life and religion? The following is an attempt to answer these questions.

II

Emerson very probably came to associate the sacred writers of the East with those of the Platonic schools through his adoption of the critical attitude of the French philosopher Cousin, whose works he read. Cousin had written: "The roots of Greece and Rome are absolutely Oriental. Language, writing, the alphabet, processes of industry and agriculture, mechanical arts, primitive forms

of government, the primitive processes and characters of art, and the primitive forms of religion, all, all are Oriental. . . . When we read with attention the poetical and philosophical monuments of the East, especially those of India, which are beginning to spread in Europe, we discern there so many truths, and truths so profound and standing in so strong a contrast with those mean results which, in these latter days, have satisfied European genius that we are tempted to bow the knee before the genius of the East, and see in that cradle of mankind, the true home of philosophy!"

In lecturing before graduate classes in philosophy at Harvard, Emerson is recorded to have said: "Thought has subsisted for the most part on one root; the Norse Mythology, the Vedas, Shakespeare have served the ages. . . . The systems of philosophy are few and repeat each other; there is little that is new. One philosopher unfolds the doctrine of materialism; the next will unfold the same doctrine, but after the fashion of his own mind; the fourth will take a middle ground, until we have Materialism, Idealism, Dogmatism, Skepticism and few new thoughts. . . . When Orientalism in Alexandria found the Platonists, a new school was produced. The sterness of the Greek school, feeling its way forward from argument to argument, met and combined with the beauty of Orientalism."

These two passages show a critical attitude, an evidence of willingness to credit other races with having discovered their share of truth. But the most fruitful source of all, in a search for proof of Emerson's tolerance and interest in ethnic faiths, is his own work. Scores upon scores of passages in his Journals and Essays show that he leaned often on the Vedas for inspiration and paraphrased lines of the Puranas in his poems.

It was the concept of unity that appealed to Emerson in Orientalism. Early in life he had written in his Jour-

nals, "An obscure and slender thread of truth runs through all mythologies, and this might lead to the highest regions of philosophy." There is little change between this statement and an entry made at the age of sixty-four, when Emerson's philosophy had matured and mellowed. "Can any one doubt that if the noblest saint among the Buddhists, the noblest Mohametan, the highest stoic of Athens, the purest and wisest Christian, Confucius in China, Spinoza in Holland, could somewhere meet and converse together, they would all find themselves of one religion, and all would find themselves denounced by their own sects, and sustained by those believed adversaries of their sects? Jeremy Taylor, George Herbert, Pascal even, Pythagoras, . . . if these could all converse intimately, two and two, how childish their country traditions would appear."

In 1839 the following passage was written in the Journals: "TheBible—the transcendent I have said is economy also. Literary accomplishments, skill in grammar, logic and rhetoric can never countervail the want of things that demand voice. Literature is but a poor trick when it busies itself to make words pass for things. The most original book in the world is the Bible. This old collection of the ejaculations of love and dread, of the supreme desires and contritions of men, proceeding out of the region of the grand and eternal, by whatsoever different mouths spoken, and through a wide extent of time and countries, seems to be the alphabet of the nations and all posterior literature either the chronicle of facts under very inferior Ideas, or, when it rises to sentiment, the combinations, analogies, or degradations of this—People imagine that the place which the Bible holds in the world it owes to miracles. It owes it simply to the fact that it came out of a profounder depth of thought than any other book, and the effect must be precisely proportionate—I have used in the above remarks the *Bible* for the ethical revelation considered generally, includ-

ing, that is, the Vedas, the Sacred writings of every nation and not of the Hebrews alone—."

It would be difficult to find, in all literature, a passage that exhibited more tolerance or breadth of view. To Emerson the Vedas and the Koran were Scriptures just as sacred as the Hebrew Bible. His was not the dogmatist's pose of infallibility. And one could go on, culling out passage after passage, some of which speak of Occidental natural science in terms of Hinduism. "All science is transcendental or else passes away. Botany is now acquiring the right theory—the avatars of Brahma will presently be the text books of natural history." Nature is the same in India as in America, the basis of universal life. And all the fairy tales of the world, whether Eastern or Western, even "the most trivial and gaudy fable, Kehama, Jack Giant-killer, Red Ridinghood, every grandam's nursery rhyme contains a moral that is true to the core of the world. It is because nature is an instrument so omnipotently musical that the most careless or stupid hand cannot draw a discord from it." God is all and in all and eternal. All that is not of the infinite source is ephemeral and will vanish. This was Emerson's faith. Let it be repeated, he was eclectic in sympathy and his philosophy was composed largely of Oriental doctrines.

Before turning from the spirit with which Emerson approached the Eastern writings, one final passage which summarizes his bias better than any other should be presented here. "Yes, the Zoroastrian, the Indian, the Persian scriptures are majestic, and more to our daily purpose than this year's almanac or this day's newspaper. . . . I owed—my friend and I owed—a magnificent day to the Bhagavat Gita. It was the first of books; it was as if an empire spoke to us, nothing small or unworthy, but large, serene, consistent, the voice of an old intelligence which in another age and another climate had pondered and thus

disposed of the same questions which exercise us. Let us now go back and supply minute criticisms to it, but cherish the venerable oracle."

Thus Emerson viewed the other religions of the world, in particular the Hindu and his Vedas. In order to look on both sides of the matter, it would be interesting to ascertain how the Hindu viewed Emerson.

III

In a volume published by the Concord School of Philosophy in 1885, *The Genius and Character of Emerson,* there appeared a chapter, "Emerson As Seen From India," contributed by a Hindu, Protap Chunder Mozomdar. It is regrettable that the entire chapter cannot be included in this account, but passages will show clearly enough, it is hoped, that the Hindu reciprocates, that Emerson is revered and beloved.

"And now you want me to say what we think of him in India. Where the blue Narbudda, so still, so deep and pure, flows through the high milk-white walls of the marble hills near Jubbulpoor, in the natural alcoves of the virgin rocks there are devotional inscriptions in Sanscrit. I wish Emerson had composed his essay on nature there. . . . Amidst this ceaseless, sleepless din and clash of Western materialism, this heat of restless energy, the character of Emerson shines upon India serene as the evening star. He seems to some of us to have been born in India. Perhaps Hindus were closer kinsmen to him than his own nation, because every typical Hindu is a child of Nature. All our ancient religion is the utterance of the Infinite through Nature's symbolism. . . . Emerson speaks of his homogeneity with the woods and wilderness. The tranquil landscape and the distant line of the horizon gave him that perception of occult relationship between man and all things, which is the key to the sublime culture known as

Yoga in the history of Hindu philosophy. . . . Emerson laid the foundations of the true philosophy of the world by viewing matter not as a soulless succession of appearances, nor yet a creation of the brains of man, but as a mysterious, marvellous putting forth in outward form of beauty that which he inwardly realizes in the spirit. His writings too, often recalled to mind the utterances of Hindu philosophy—that all the universe is a divine dream, passing away, but in passing it reminds us of the meaning, glory, presence, and life which it reveals and conceals. . . . Yes, Emerson had all the wisdom and spirituality of the Brahmins. Brahmanism is an acquirement, a state of being rather than a creed. In whomsoever the Eternal Brahma breathed his unquenchable fire, he was the Brahmin. And in that sense Emerson was the best of Brahmins."

Might it not be argued that where an East Indian Brahmin finds himself in such close sympathy with Emerson, there is a spiritual affinity which transcends race and color, which lifts the term Boston Brahmin out of the figurative into the literal?

IV

No very certain proof has ever been given of the time when Emerson first came under the influence of Orientalism. In a letter, Dr. Edward Waldo Emerson wrote: "I think that I remember dimly that even while in college his letters show that he had at least read extracts from them (the East Indian Scriptures), probably in some Englishman's account of India."

The Journals also indicate that in the autumn of 1830 and continued the next year, he was jotting down in a rude manuscript numerous quotations and notes. In one particular case it gave evidence that Emerson had been introduced by De Gerando and Anguetil-Duperron to the teachings of Confucius and Zoroastrianism. "And thus," the

editors noted, "he entered on the path that, years later, lead to the Springs of Religion and Philosophy in the remote past of the Orient." If the nature of the passages copied is any evidence of Emerson's philosophical development, it will be interesting to note the following, which was entered upon the pages of the journal at this time: "Idealism is a primeval theory. *The Mahabarat,* one of the sacred books of India, puts into the mouth of Jaschak Palak these express words, 'The senses are nothing but the soul's instrument of action; no knowledge can come to the soul by their channel!' "

Again, in the Journal of 1845 he writes, "The East is grand and makes Europe appear the land of trifles." But five years previous to this, in the summer of 1840, he had written in a letter to a friend: "In the sleep of the great heats there is nothing for me but to read the Vedas, the Bible of the tropics, which I find I come back upon every three or four years. It is sublime as heat and night and a breathless ocean. It contains every religious sentiment, all the grand ethics which visit in turn each noble poetic mind, and nothing is easier than to separate what must have been the primeval inspiration from the endless ceremonial nonsense which caricatures and contradicts it through every chapter. It is of no use to put away the book: if I trust myself in the woods or in a boat upon the pond, Nature makes a Brahmin of me presently: eternal necessity, eternal compensation, unfathomable power, unbroken silence. . . . This is her creed. Peace, she saith to me, and purity and absolute abandonment—these panaceas expiate all sin and bring you to the beatitude of the Eight Gods."

When this passage was entered upon the pages of his note books, Emerson was twenty-seven years of age. It may never be possible to determine entirely just what books he read during his college years, but there is every evidence

that his curiosity was alive and his knowledge of India and her faiths profound. The Journals were commenced while Emerson was in his sixteenth year and a junior at Harvard. It is not necessary to read far before one comes upon the first reference to India. It would be illuminating, could it be determined whether the following statement was inspired by a lecture or by profound reading and insight. At any rate, it is unique, coming from the hand of a boy of sixteen. "The ostentatious ritual of India which worshipped God by outraging nature, though softened as it proceeded West, was still too harsh a discipline for Athenian manners to undergo."

On October 24, 1820, while Emerson, aged seventeen, was still at Harvard, he was curiously attracted to a classmate named Martin Gay. Making note of this experience he writes: "I begin to believe in the Indian doctrine of eye-fascination. The cold blue eye of ———— has so intimately connected him with my thoughts and visions that a dozen times a day, and as often by night, I find myself wholly wrapt up in conjectures of his character and inclinations."

Shortly after this the Indian passages become more numerous, but there are none more interesting than a fantastic little paragraph entitled "A Venture in Romance", in which he has instilled the mysterious, occult atmosphere which many Westerners think pervades the Orient: "I was the pampered child of the East. I was born where the soft western gale breathed upon me the fragrance of cinnamon groves, and through the seventy windows of my hall the eye fell upon the Arabian harvest. An hundred elephants, apparelled in cloth of gold, carried my train to war, and the smile of the Great King beamed upon Omar. But now—the broad Indian moon looks through the broken arches of my tower; and the wing of Desolation fans me with poisonous airs; the spider's threads are the tapestry

which adorns my walls, and the rain of the night is heard in my halls for the music of the daughters of Cashmere. Wail, wail for me, ye who put on honor as gay drapery."

The first positive knowledge that we have of Emerson's reading translations of Indian works themselves comes from the Journal of 1822, when Emerson was nineteen years of age. He concluded several pages of remarks on God, which expressed a rather youthful monistic faith, not yet full-blown but clearly indicating the course of his mind, by saying, "I know nothing more fit to conclude the remarks which have been made in the last pages than certain fine pagan strains.

> "'. . .Of dew-bespangled leaves and blossoms bright,
> Hence! vanish from my sight,
> Delusive pictures, unsubstantial shows,
> My soul absorbed, one only Being knows,
> Of all perceptions, one abundant source,
> Hence every object, every moment flows,
> Suns hence derive their force.
> Hence planets learn their course;
> But suns and fading worlds I view no more,
> God only I perceive, God only I adore!'"

The passage was taken from Sir William Jones' translation of *Narayena*. Significant it is indeed that Emerson, at nineteen, should have found in Oriental verse the words to express his thoughts of God. And indeed the passage bears analogy to his own poem of *Pan*:

> "Of what are heroes, prophets, men,
> But pipes through which the breath of Pan doth
> blow
> A momentary music. Being's tide
> Swells hitherward, and myriads of forms

Live, robed with beauty, painted by the sun;
Their dust, pervaded by the nerves of God,
Throbs with overmastering energy
Knowing and doing. Ebbs the tide, they lie
White hollow shells upon the desert shore,
But not the less the eternal wave rolls on
To animate new millions and exhale
Races and planets, its enchanted foam."

Oriental translations were rarities in the New England of the mid-nineteenth century. Furthermore, Emerson did not read Sanscrit. But it was the time when the mysteries of Indian literature were intriguing the interests of English scholars and able men turned their lives to the task of giving to the West translations of the Indian epics and scriptures. In 1854 occurred one of the most fortunate of incidents for Emerson and the "international relations" of literature. In September of that year, Thomas Cholmondeley, a young Englishman, friend of Arthur Hugh Clough and nephew of Bishop Heber came to Concord with letters which introduced him to Emerson. When the latter found that Cholmondeley wished to stay in town, he advised him to apply to Mrs. John Thoreau, who took lodgers. Thus he was received into the family of Thoreau's mother and there began an intimate acquaintance between the two men. A short time after Cholmondeley had returned to England, Thoreau received forty-four volumes of Hindu literature as a gift. Of these, twenty-three were bequeathed to Emerson on Thoreau's death. The list contains the names of such eminent translators as H. H. Milman, H. H. Wilson, M. E. Burnouff and Sir William Jones. Several volumes of Colebrooke's essays were also in the collection.

A tabulation of the Oriental works which Emerson read, quoted from and mentioned in the Journals exclusive of

those he received as a bequest from Thoreau, reveals numerous volumes of Persian poetry, translations of Confucius and other Chinese philosophers by James Legge, Marshman and David Collier, and books on Hindu mathematics and mythology. Another sidelight on Emerson's possible reading is a letter written by T. W. Higginson to the editors of *The Critic* in which he notes that he thinks Thoreau received the whole series of Oriental Translation Fund publications, as a gift from Clough and others. Under these circumstances, there can be little doubt that Thoreau shared the works with his Concord friend.

Thus Emerson's Brahminism was nourished by the sacred books of the East. The parallels in Transcendentalism and Hinduism were not accidental.

V

The literary use which Emerson made of this wide reading is fascinating. The two poems, *Brahma* and *Hamatreya,* are generally and rightly considered to be the crystallization of the Oriental forces in his thinking. Numerous interpretations of these poems, which are too well known to need much more light, have been made. *Brahma* appeared in the first number of the *Atlantic Monthly* in November, 1857, and read as follows:

Song of the Soul (Brahma)

If the red slayer thinks he slays,
Or if the slain thinks he is slain,
They know not well the subtle ways,
I keep, and pass and turn again.

Far or forgot to me is near;
Shadow and sunlight are the same,
The vanished gods not less appear;
And one to me are shame and fame.

They reckon ill who leave me out;
When me they fly, I am the wings;
I am the doubter and the doubt,
And I the hymn the Brahmin sings.

The strong gods pine for my abode,
And pine in vain the Sacred Seven;
But thou, meek lover of the good!
Find me, and turn thy back on heaven.

Dr. Edward Emerson notes the fact that his father, much amused when people found *Brahma* puzzling, said to his daughter, "If you tell them to say Jehova instead of Brahma, they will not feel any perplexity."

Another story is told of a little school girl who was bidden by her teacher to learn some verses from Emerson. The next day she recited *Brahma*. The astonished teacher asked her why she chose that poem. And the child is recorded to have answered that she tried several, found that she could not understand them at all and decided upon the poem which she recited, "for it was so easy—it just means God everywhere." The anecdote clearly shows that if the poem is approached with the idea of Oriental Immanence in mind, it will present no difficulties.

It is interesting to note that Emerson's friend, the mystic Carlyle, saw God with much the same eye, when he wrote, "The Eternal is no Simulacrum; God is not only there, but here or no where, in that life-breath of thine, in that act and thought of thine,—and thou wert wise to look to it."

The first appearance of the central philosophy of *Brahma* was in the Journal of 1830. Emerson had made the following entry: "Thought and the object of Thought are but one."

All the attempts of the past to "locate" the sources of

this poem have simply resulted in pointing out analogous passages in the Upanishads or translations of the Katha Upanishad which were of considerably later date than the appearance of Emerson's poem. Through a happy circumstance I was able to gain access to volumes of the same editions which Emerson received from Thoreau. The books arrived at Concord in 1855. *Brahma* first appeared in the Journal of July, 1856, and, as has already been stated, in the November, 1867, number of the *Atlantic*. Emerson did not receive Thoreau's bequest until 1862, it is true, but it is no stretch of imagination to presume that the friends had access to each other's libraries.

Furthermore, in the nineteenth verse of the Second Valli of the Katha Upanishad (*Bibliotheca Indica,* Vol. XV, translated by E. Roer, Calcutta, 1853) we read: "If the slayer thinks I slay, if the slain thinks I am slain, then both of them do not know well. It (the soul) does not slay nor is it slain." Compare this with the first stanza of *Brahma*. The resemblance is too close to be questioned.

We cannot here enter an extended exposition of the poem *Hamatreya* which is next in importance, in showing Emerson's indebtedness to Hindu works. But the outstanding borrowings will suffice. It is worthy of note that Emerson changed the Purana passage, "Earth laughs, as if smiling with autumnal flowers, to behold her kings unable to effect the subjugation of themselves" into

> "Earth laughs in flowers, to see her boastful boys
> Earthproud, proud of the earth which is not theirs."

Two other points of similarity might be noted. In both, it is the Earth which recites the song telling of the futility of human pride and avarice; and finally, compare the Purana conclusion, "These were the verses, Maitreya, which Earth recited and by listening to which ambition fades

away like snow before the sun," with the last stanza of the Earth-song as it is in Emerson:

"When I heard the Earth-song
I was no longer brave;
My avarice cooled
Like lust in the chill of the grave."

Several lines in the poem *Celestial Love* afford in their symbolism, close analogy, if not proof that they were based on Vedic writings.

"In a region where the wheel
On which all beings ride
Visibly revolves;
Where the starred eternal worm
Girds the world with bound and term;
Where unlike things are alike;
Where good and ill
And joy and moan,
Melt into one."

The wheel is a symbol not infrequently used by the Brahmin writers. In the Svestasvatara Upanishad the First Cause is spoken of in terms of a wheel and often is used in connection with the endless cycle of births and rebirths of individual souls. Furthermore the imagery of the "starred eternal worm" might easily refer to a passage in the Vishnu Upanishad (H. H. Wilson's translation, 1840, received by Emerson from Thoreau) where Sesha, a serpent, supports Vishnu while he sleeps during the intervals of creation. Sesha "has a thousand heads, which are embellished with the pure and visible mystic sign; and the thousand jewels in his crests give light to all regions—Sesha bears the entire world, like a diadem, upon his head, and he is the foundation on which the seven Patals (regions

below the earth) rest. His power, his glory, his form, his nature cannot be described, cannot be comprehended by the gods themselves. Who shall recount his might, who wears this whole earth like a garland of flowers, tinged of a purple dye by the radiance of the jewels of his crest." Thus Emerson might again be construed to have borrowed a Hindu symbol to represent his idea of the Divine Immanence in which all things "melt into one."

Another curious and baffling passage in the Journals might easily be connected with lines from *Celestial Love*. In the Journal of 1845 Emerson wrote: "The doctrine of the Triform came from India, as did the poetic horror that the demons in hell had that tremendous power of vision that they saw through all intermediate regions and worlds . . . . " At approximately the same time he copied another passage from the Sixth Valli of the Katha Upanishad (*Bibliotheca Indica*): "It (the world) is like an eternal fig tree, whose root is upwards, and whose branches go downwards. This is called even pure, this is called Brahma (all comprehensive); this is called immortal; upon this all the worlds are founded; none become different from it. This is that."

These two quotations taken together will explain the following lines from Emerson's poem.

> "There Past, Present, Future, shoot
> Triple blossoms from one root.
> Substances at base divided
> In their summits are united;
> There the holy essence rolls,
> One through separated souls."

The doctrine of the Triform then, is clearly that of the Past, Present, and Future, "triple blossoms" from the main root—the divine Brahma in whom are all things united, to

whom there can be no past, present or future. The relationship of the passages seems to be indubitably clear. And thus the Boston Brahmin used the literary images of India in some of his most representative work.

VI

Now, what of the doctrines of the East?

It is exceedingly difficult to determine whether Emerson actually believed in the doctrine of transmigration as literally as the Hindus. If he did not accept the doctrine literally and in toto, at least he always considered it worthy of mention. References can be given both from his Journals and his standard published work which show that he was not unmindful of the logical necessity of some form of the transmigration theory if he was to be a consistent Brahmin.

In the Journal of 1845 he writes, "For this Indian doctrine of transmigration, it seems easy of reception where the mind is not preoccupied. Not more wonderful than other methods which are in use, and so readily suggested, not only by the manners of insects but by the manners of men. Here is a gentleman who abused his privileges when in the flesh as a gentleman, and curtailed therefore his amount of vital force. We cannot kill him for souls will not die. This punishment, self imposed, is, that he take such form as his diminished vital force can maintain. Now it takes, to make a good dog, say, half a grain; to make a great general, a pennyweight; a philosopher, two; a poet, ten; and a good and wise man, a thousand pounds. Now our ill-behaved man, on emerging from his rotten body, and a candidate for new birth, has not enough to maintain himself as a man, and, with his diminished means, nothing is left for it but that he should take a turn through nature, this time as a monkey. That costs very little, and by careful governance in the monkey form, he shall be

saved something and be ready at his return to begin the world again more decently, say, as a dog. Good Hottentot, he will rise, and one of these ages will be a Massachusetts man."

From such passages our suspicions are aroused that Emerson is writing in one of his moods of good humor. But he continues: "What other account is to be given of those superfluous triflers who whisk through nature, whom we are sure we have seen before, and who answer no purpose to the eye while they are above the horizon? They are passing through their grub state, or are expiating their ill economy of long ago. . . . 'Travelling the path of life through thousands of births'." At this, suspicions that Emerson is merely writing humorously of transmigration are not so sure. Furthermore, in all literalness, he writes of the custom of the Indian woman who "burns herself on her husband's funeral pile, because she believes in Transmigration; and being born again, if faithful, in a form not less than the last, retains enough memory to find her husband in his new form, though a dog, or a jackal, or a wolf, and by affectionate speech, recalls to him also his memory and exhorts him to divest his present unworthy weeds. In the long rotation by fidelity they meet again in worthy forms. The flame of the funeral pile is cool to the widow."

A little six line poem, *The Three Dimensions,* which Emerson printed in *The Dial,* but never in his published poems, gives another point from which to view his thoughts on transmigration.

"Room! cried the spheres when first they shined,
And dived into the ample sky:
Room! room! cried the new mankind
And took the oath of Liberty:
Room! room! willed the opening mind,
And found it in Variety."

Whatever may be said for Emerson's acceptance, literally, of the Hindu concept, it was true that in his philosophy the soul could not die. Explain it as we may, in the light of Platonic influences or the historically more recent German metaphysics, consistency demanded that the deathless soul be provided for, and we have noted Emerson's singular mention of the Hindu transmigration theories in this connection.

It is in Emerson's doctrine of the "Over-Soul" that the closest philosophical affinity may be found with the Hindu Vedanta. Numerous men have already pointed out that the word itself is a literal translation of a synonymous Sanscrit term. Emerson regarded matter as the negative manifestation of the Universal Spirit. It has its life and development through the direct immanence of the Absolute. And in like manner, Mind is an expression of the Universal Spirit in its positive power. Man himself is nothing but the Universal Spirit present in a material organism. Man is of the Divine, lives in the Divine, and in every power he manifests he shows the Divine life within. The soul is not a separate individuality but "part and parcel of God." In reality, Emerson says, "The soul in man is not an organ, but animates and exercises all organs; is not a function, like the power of memory, of calculation, of comparison, but uses these as hands and feet; is not a faculty but a light; is not the intellect or the will, but master of the intellect and the will; is the background of our being in which they lie—an immensity not possessed and that cannot be possessed. From within and from behind, a light shines through us upon things, and makes us aware that we are nothing, that the light is all."

The Indian Vedanta repudiates a conception of the creation which implies, first, a creation out of nothing, and secondly, the separation of the Creator from His Creation, and which, finally, in this implication, leaves unexplained

the organic growth and development of the Universe. The Vedantins maintain that nature is not created but begotten with the elements of life and growth inherent in it, no external impulse being necessary for its development. The whole cosmos is a living organism—one life pervading all and connecting all, from the highest to the lowest order of beings, in such defined relations to each other as to show intelligence and purpose. The Bhagavat Gita expresses it in saying that all are "threaded on the Lord, as jewels on a string."

In Emerson's essay of that title it is in the Over-Soul that "every man's particular being is contained and made one with all others—and man is the facade of this temple wherein all wisdom and all good abide." And again, "we live in succession, in division, in parts, in particles. Meanwhile within man is the soul of the whole; the wise silence; the universal beauty to which every part and particle is equally related; the Eternal One. And this deep power in which we exist and whose beatitude is all accessible to us, is not only self-sufficing and perfect in every hour, but the act of seeing and the thing seen, the seer and the spectacle, the subject and the object, are one. We see the world, piece by piece, as the sun, the moon, the animal, the tree; but the whole, of which these are the shining parts is the soul."

Whole passages from the *Over-Soul* might be supplanted by passages from the Upanishads and their relevancy be unaffected. Take the following from the Chandogya Upanishad and note its resemblance to the concluding passage above. "Where one sees nothing else, hears nothing else, understands nothing else, that is the Infinite. Where one sees something else, hears something else, understands something else, that is the finite. The Infinite is Immortal, the finite is mortal."

And because of all this, we have Emerson's doctrine

of Self-Reliance. "As there is no screen or ceiling, between our heads and the infinite heaven, so there is no bar or wall in the soul where man, the effect, ceases and God, the cause, begins. The walls are taken away. We lie open on one side to the deeps of spiritual value, to the attributes of God,"—and consequently—"The soul is the perceiver and the revealer of truth. We know truth when we see it, let the sceptic and scoffer say what they choose. Foolish people ask you, when you have spoken what they do not wish to hear, 'How do you know it is truth and not an error of your own?' We know truth when we see it, from opinion, as we know when we are awake that we are awake."

Emerson gave bold counsel to the man who believed without being able to give reason for it. "Trust the instinct to the end though you can render no reason." Independent in spirit and sure that the God within him would not fail, he asks, "Why should I give up my thought because I cannot answer an objection to it?" And finally he utters what would seem a mighty paradox. "With consistency a great soul has nothing to do!" The soul within man is God and cannot err. Indeed, "man stands at the point betwixt the inward spirit and the outer matter. He sees that one explains and translates the other: that the world is the mirror of the soul. He is the priest and interpreter of Nature thereby."

An inquirer might well ask, then, of the source of this outward matter, and we have the answer in the poem *Woodnotes* where Emerson says,

"Ever fresh the broad creation,
A divine improvisation,
From the heart of God proceeds,
A single will, a million deeds.
Once slept the world, an egg of stone,

And pulse, and sound, and light was none;
And God said, throb, and there was motion,
And the vast mass became vast ocean. . . ."

Emerson's use of the Hindu metaphor in the line "Once slept the world, an egg of stone" again shows how he borrowed from the Vedas. For in the Chandogya Upanishad we read, "In the beginning this world was merely non-being. It was existent. It developed. It turned into an egg. It lay for the period of a year. It was split asunder. One of the two eggshell parts became silver, one gold. That which was of silver is this earth. That which was of gold is the sky. What was the outer membrane is the mountains. What was the inner membrane is cloud and mist. What were the veins are the rivers. What was the fluid within is the ocean."

It is not necessary here to analyze fully the Hindu Maya or to interpret its implications. It has been compared with the Logos of the Christian Gospels, with the infinite modes of the system of Spinoza, and other concepts. Indian Brahmins themselves not infrequently interpret the Maya differently. It is sufficient here to demonstrate that Emerson has taken the term, understood it to be illusion and written of it as such. His verse, his essays and his journals are all evidence of this fact.

In the Journal of 1866 he wrote, "In the history of intellect, no more important fact than the Hindu theology, teaching that the beatitude or supreme good is to be attained through science: namely, by the perception of the real from the unreal, setting aside matter, and qualities and affections or emotions, and persons and actions, as mayas or illusions and thus arriving at the contemplation of the one eternal Life and Cause, and a perpetual approach and assimilation to Him, thus escaping new births and transmigrations. . . . Truth is the principle and the moral of the

Hindu theology. . . . Truth as against the Maya which deceives Gods and Men; Truth the principle, and Retirement and Self-denial the means of attaining it." In 1861 he wrote, "The doctrine of the Imagination can only be rightly opened by treating it in connection with the subject of Illusions. And the Hindus alone have treated this last with sufficient breadth in their legends of the successive Mayas of Vishnu. With them, youth, age, property, condition, events, persons, self, are only successive Mayas through which Vishnu works and instructs the soul." Here the Maya is a connecting link between the ephemeral world and the Supreme Essence, Absolute Thought and Being.

The Journals are ever so prolific of quotable passages upon this phase of Hinduism that it is difficult to eliminate them. As a final quotation from these notebooks, however, it seems well to include one more passage, which was copied in 1866 from the Vishnu Purana. "In the road of birth where there is no shelter; which great miseries make difficult; where the god of death presents himself as a frightful reptile; where they have before their eyes the mirage of objects; where the opposite affections (of pleasure and pain) are precipices; where they fear the wicked as ferocious beasts; where grief is like a fire in the forest;—how shall a caravan of ignorant beings, loaded with the heavy burden of the body and soul, tormented by desire,—how, O God who givest asylum, should it ever arrive at thy feet?"

A few lines from the poem *Illusions* will be sufficient to show how Emerson expressed the thought of Maya in verse.

"Sleep is not, death is not;
Who seem to die, live.
House you were born in,

Friends of your spring-time,
Old man and young maid,
Day's toil and its guerdon,
They are all vanishing,
Fleeing to fables,
Cannot be moored.
See the stars through them
Through treacherous marbles.
Know the stars yonder,
The stars everlasting,
Are fugitive also,
And emulate, vaulted,
The lambent heat lightning
And fire-fly's flight.

When thou dost return
On wave's circulation,
Behold the shimmer,
The wild dissipation,
And out of endeavor
To change and to flow,
The gas becomes solid,
And phantoms and nothings,
Return to be things,
And endless imbroglio
In law and the world, . . ."

And finally there is the poem itself which Emerson has entitled *Maya*:

"Illusion works impenetrable,
Weaving webs innumerable,
Her gay pictures never fail,
Crowds each other, veil on veil,
Charmer who will be believed
By man who thirsts to be deceived."

Before discussing the more modern aspects of what the East may offer the West, Emerson's supreme tribute to Orientalism would not be amiss if quoted here. "There is no remedy for musty, self-conceited English life made up of fictitious, hating ideas,—like Orientalism. That astonishes and disconcerts English decorum. For once there is thunder he never heard, light he never saw and power which trifles with time and space."

VI

It is not our object to split metaphysical hairs. What we have been trying to do is to show in some cases the parallel and in others the dependence of Emerson upon the thought of the East. Other light, we frankly admit, might be thrown on the subject and give a slightly different shade, for Emerson's taste was catholic and his readings broad. But it must be remembered, as Cabot said, that "the fundamentals of Transcendentalism are to be felt as sentiments, or grasped by the imagination as poetic values, rather than set down as propositions." Then, again, there is the reminder of Frances Tiffany: "First and foremost it (Transcendentalism) can only be rightly conceived as an intellectual, aesthetic, and spiritual ferment, not a strictly reasoned doctrine."

If, then, Transcendentalism may be fundamentally a *temper,* it is not difficult to find many more doctrines in which there is the closest affinity between Emerson and the Hindus. Emerson was an evolutionist—to the extent that one of his critics has raised the question of how he could be an evolutionist and at the same time a mystic. Briefly, Emerson's concept of evolution must be thought of in terms of emanation. This is highly suggestive of the modern theory of evolution. It implies that Brahma, through the laws of its own being, throws itself into manifestations of itself. The Hindus illustrate this idea by

the similes of a spider and its web, the hair and nails growing on an animate body, the sea and its waves and foam, the sun and its rays playing on the rippling water. But in doing so the Hindu does not predicate that what is thus let out is separated from Brahma, which is designated its cause. He recognizes an identity of existence in the effect and its cause, the subject and the object. The effect is always latent in the cause; the cause is identical with effect. Now let Emerson speak. "The world seems very simple and easily dispatched. . . . There are but two things, or but one thing and its shadow . . . Cause and Effect, and Effect is itself worthless if separated from Cause. It is Cause still that must be worshipped in Effect, so that it is only one thing. The worship of Effect is Idolatry."

In summary, what the Hindus and Emerson obviously repudiated was the conception of creation, which implied, first, a creation out of nothing, and secondly, the separation of the Creator from His creation, and which thirdly, in this implication, left unexplained the organic growth and development of the universe.

What such writers as L. Adams Beck, friends of the spiritual messages of Asia, would have us of the Occident remember in the Oriental point of view as represented in the Upanishads, is that law is inherent in the soul and body, and that the evolutionary life of the soul is instinctive and simple, when realized. Without certain perfectly natural spiritual processes "spiritual disease" results, and this disease does not mean "vaguely unpleasant penalties to be encountered in a dubious future life, but a certain maimed and troubled existence in this, and the inevitable reaping of the sown harvest until the last trace of disease and its consequences to others is worked out." This is nothing more nor less than the Hindu doctrine of Karma, the doctrine of spiritual cause and effect—or Emersonian compensation.

Let us note Emerson's words: "Pleasant it is to the soul, painful it is to the conscience, to recognize wherever you go the fixed eternity of moral laws. You cannot be too just. There is no excess of observance: be kind in the stage, be kind in the pew, keep your word, be kind in the quarrel. Bear yourself so on all occasions, saith one, that the opposer may beware of thee. Jesus says, so bear yourself as if your trade and business was to serve that man. Don't lose this principle a moment. And your character will be its commentary and exposition. . . . When we enter upon the domain of Law we do indeed come out into light. To him who, by God's grace, has seen that by being a mere tunnel or pipe through which the Divine Will flows, he becomes great, and becomes a Man, . . . the future wears an eternal smile, and the flight of time is no longer dreadful. I assure myself always of needed help, and go to the grave undaunted because I go not to the grave."

Finally, Emerson in another instance wrote, "I am primarily engaged to myself to be a public servant to all the gods, to demonstrate to all men that there is intelligence and good will at the heart of things, and higher and higher leadings." Surely, then, the sage of Concord, Massachusetts, who was the public servant to the gods of the Vedas and the Hindus *was* a Brahmin. And the world has seen a man in whom the East met the West in a happy synthesis.

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RECENT INTERPRETATIONS OF RELIGION IN AMERICA AND GREAT BRITAIN

I

THE problems and view-points today regnant in the philosophy of religion within English-speaking countries are only in part of recent origin. In their general outlines, at least, some of the more basic of them emerged as distantly as Hellenism. Others, and perhaps precisely those that somewhat specifically define our orientation as a whole, may be traced back directly to the leading ideas, more especially, of Kant, Schleiermacher and Hegel. The teaching of these philosophers was at once so revolutionary in its character and so enduring in its influence that those of our present generation who have attained to self-consciousness in their reflective interpretation of religion are very apt to recognize themselves as in the midst of a stream with eighteenth century sources.

True, there are marked changes in perspective. Waterhouse, for example, describing the *Zeitgeist* of Schleiermacher's day, refers to "the ethical rigourism of the Kantians, reducing religion to a footnote to the text of morality."[1] The large measure of truth in this judgment should, however, not cause us to forget that the "footnote" was of distinct significance and that the considerations which led to it and to its precise place in the text of the critical philosophy were of epoch-making import. Few, we believe, would seriously dispute Pringle-Pattison's conclusion that

[1] Waterhouse, Eric S.: *Modern Theories of Religion*, London, 1910, p. 25. In another passage (p. 117), however, Waterhouse acknowledges that Ritschl's "doctrine of value-judgments, like so much else in modern philosophy, has been traced back to Kant."

the Kantian "conception of intrinsic value as the clue to the ultimate nature of reality is the fundamental contention of all idealistic philosophy since Kant's time,"[2] and many would agree that "to Kant may be traced the most characteristic forms of the Theistic argument."[3] The addresses and papers evoked by commemorations, in 1924, of the bicentenary of Kant's birth very generally argue that our contemporary outlook with respect to religious problems is ascribable in no small measure to the philosophy of the great Koenigsberger.[4] To him, the *Alleszermalmer,* may be traced the recognition (today predominant outside the circle of the neo-scholastics) that *pure* reason is impotent in the sphere of theology, unable either to disclose the god of religious worship or to demonstrate his existence. To Kant, moreover, do we owe the realization that religion may not be interpreted through the categories of spatial and temporal existences. Kant was likewise the source of certain positive insights involved in most of the technical discussions of religion today and defining for the latter their further tasks. For he taught that religion is essentially a matter of attitudes and of life, that it consequently relates to the realm of values, and that the dogmas of religion, therefore, —more especially those of theology—are expressions, not of logical analysis or purely theoretical activity, but of the inner experiences of moral agents—they are not generaliza-

[2] Seth Pringle-Pattison, A.: *The Idea of God in the Light of Recent Philosophy,* Oxford University Press, 1917, p. 38; *cf.* also pp. 46ff.

[3] *Ibid.,* p. 75.

[4] See, for example, two collections of such essays bearing the title *Immanuel Kant: 1724-1924,* the one edited by E. C. Wilm (Yale University Press) and the other by E. L. Schaub (The Open Court Publishing Co.); also a paper read at the University of Michigan by R. M. Wenley, later printed in the Anglican Theol. Rev., Vol. VII, pp. 121-144; and, very especially, the lectures delivered by C. C. J. Webb at Oxford and published under the title, *Kant's Philosophy of Religion* (Oxford University Press, 1926). Professor Webb declares that we still have much to learn from Kant's interpretation of Christianity as primarily ethical in character. He stresses also the Kantian view that, while religion includes a non-rational element, this in no wise destroys its essential reasonableness.

tions or formulations of matters of fact but possess the deeper truth of symbols and of art.[5]

This conception of the symbolical nature of theology, and the doctrine that religion is not a cognitive product but a manifestation of broader, non-theoretical experience, were cardinal likewise in the teaching of Schleiermacher. But here religion wins its complete emancipation, even from morality, and establishes itself as an autonomous phase of experience. Indeed, it is declared as "the sense of absolute dependence" to reveal the depths of the human soul, and as "a sense and taste for the infinite" to furnish its own revelations of the ultimate order within which man and all that is finite have their being. Religion, it is realized, cannot be satisfactorily interpreted if it is dealt with simply from the standpoint of, or in connection with, ethics, general psychology or physical science; it will be distorted if envisaged in terms of any metaphysics that has been developed without initial heed to its own claims, practical assumptions and implications. Hence Wobbermin has described Schleiermacher as the Copernicus of theology. Schleiermacher's point of view has become so prevalent in current thought, and the results of his own direct examination of religious experience are still so pertinent, that, in elucidating modern theories of religion many would feel impelled to begin, as does Waterhouse in a recent book, with an account of Schleiermacher. It is not strange, therefore, that we are witnessing something of a Schleier-

[5] In his highly important and influential *Philosophy of Religion,* Hoeffding defined religion as "faith in the conservation of values" and variously he has described the final problem of philosophy as the determination of the relation between our highest values and existence as a whole. The connection of "fact and ideal in some rational and satisfactory manner" was likewise regarded by Sidgwick as philosophy's central task. Balfour's Gifford lectures (*Theism and Humanism* and *Theism and Thought,* published in 1915 and 1924 respectively by George H. Doran Company, New York) revolve about the thesis that the *causes* of our beliefs must be adequate to account for their existence and, therefore, if we are to hold to the validity of the accepted beliefs of common sense and of science we must construe the system of causes as expressions of an intelligent purpose.

macher renaissance, within English-speaking countries no less truly than in Germany itself.[6]

Current thought is empirical. It recognizes in religion a distinguishable feature of the life of rational selfhood and investigates it in initial independence of all else. It seeks to determine the revelations and claims of religion and to penetrate beneath ideational formulations and expressions to what is actually and psychologically primary. This empiricism, however, does not content itself merely with an examination of "subjective spirit"; it supplements this with a study of what was placed in the foreground by Hegel, namely, "objective mind." The interests and activities of social groups, the nature and power of religious communities and institutions, and the insistent features of their history—these, we today recognize, must be understood if we are serious with a philosophy of religion. Royce, indeed, as well as an important group under the intellectual leadership of Ames and King, made them the primary, if not the exclusive, determinants of their interpretations.[7]

Thus, to present writers it is *selbstverständlich* that religion is something quite other than philosophy or theology, and that there should be no unguarded shifting from the

[6] In 1913 W. B. Selbie published his *Schleiermacher, A Critical and Historical Study;* this was followed in 1926 by an English translation of the *Soliloquies* which, together with valuable introductory material, appendices and bibliography, we owe to Horace Friess. (Chicago, The Open Court Publishing Co.) Referring to Schleiermacher's *The Christian Faith,* Friess writes: "But the underlying principle of this work, that systems of theology are to be understood as symbolizing religious experience, has never commanded wider respect among all the various classes of men interested in the interpretation of religion than today" (pp. lviif.). In his recent book, *The God of the Liberal Christian* (New York, 1926), D. S. Robinson stresses the abiding importance of Schleiermacher and refers to similar estimates by other contemporary writers such as Leighton, Knudson and McGiffert (p. 51n.), and to Wobbermin's "motto for contemporary theology," which is: "Back to Schleiermacher, and from Schleiermacher forward through William James" (p. 50).

[7] See especially Royce's *The Problem of Christianity* (New York, 1913), Ames's *The Psychology of Religious Experience* (Boston and New York, 1910), and King's *The Development of Religion* (New York, 1910).

one to the other of these fields. They very generally hold that a metaphysical system must take direct cognizance of the broad area of religious facts no less than of other elements of experience and scientific knowledge. Metaphysics cannot vindicate its claim to being a philosophy of religion by the mere device of rebaptizing its terms, calling the Absolute "God," for example, or social experience "religion." Arduously it must build into its structure the contributions from the religious no less than those from noetic, moral, aesthetic, social, technical and economic experience, reckoning with values as conscientiously as with facts, and with faiths and attitudes as scrupulously as with the findings of physical and social science and the principles of mathematics. In so far—as Muirhead has recently pointed out—"idealist writers like Bradley and Bosanquet, realists like Professor Alexander and Professor Lloyd Morgan, pragmatists like Dr. Schiller, are all at one," and this common view indicates, on the part of English writers, "a wholly new appreciation of the independent and permanent significance of religious experience in human life."[8] So zealously have some of our scholars thrown themselves into the tasks of empirical description and interpretation, that as we shall later note, this really pre-metaphysical work has often seemed to them the Omega as well as the Alpha of legitimate inquiry.

[8] Editor's Preface to *Contemporary British Philosophy,* Second Series, pages 21 and 20, respectively.

II

So far as the utilization of a strictly "scientific" and "empirical" psychology is concerned, the change just indicated came at about the beginning of the present century. Its initiating impulses and early creativeness were such as rapidly to bring results significant in both quantity and quality.[9] The past decade has yielded a refinement of earlier conclusions, some fresh studies, the discovery and preliminary utilization of novel methods, and more thorough appraisals of the degree of authoritativeness or finality to which psychological methods and conclusions may lay claim.

Critical surveys of important results to the dates of their publication are offered by three recent psychological works: J. B. Pratt's *The Religious Consciousness* (1920), R. H. Thouless's *An Introduction to the Psychology of Religion* (1922), and W. B. Selbie's *The Psychology of Religion* (1923). The first and third of these books are essentially eclectic as regards psychological method and standpoint as well as in respect to sources from which the data are derived. The second is significant primarily for its judicious use of a moderately psychoanalytic psychology. In this it contrasts favorably with E. D. Martin's *The Mystery of Religion* (1924). The latter leaves quite to one side the abundant literature of religious psychology and approaches the religious experience of the individual with an initial commitment to an extreme and, in the view of the present writer, a crude psychoanalytic doctrine rather than with a determination openmindedly to permit religious experience to dictate psychological conclusions. Of the books we have mentioned that of Pratt stands out not merely for its fine

[9] I have sketched this development in an article contributed to the Journal of Religion for March, 1926 and since included in a collection of essays, *Religious Thought in the Last Quarter-Century*, edited by G. B. Smith (The University of Chicago Press, 1927). The literature of the past decade in the general field of religious psychology was reviewed by the present writer in The Psychological Bulletin, Vol. 23, pp. 681-700.

judicious quality but also for its independent contributions to our scientific knowledge of religion. Important, for example, is its distinction between the conversion experiences which represent primarily an emotional perturbation or shift and those others in which the center of struggle concerns life's basic values and thus something quite objective and morally significant. This is in correction of Starbuck and other earlier writers who represented emotional conversions as thoroughly normal. In doing so, Pratt insists, they have taken as principles of human nature what in reality are the conventions of theology. Growing out of the same error is the systematization of the conversion process into distinct stages, and likewise the conclusion that "conviction" is normal and that "surrender" is necessary. A further fruitful discrimination of Pratt's is that between "objective worship," which "aims at making some kind of effect upon the Deity or in some way communicating with Him," and "subjective worship," which "seeks only to induce some desired mood or belief or attitude in the mind of the worshiper." Again, in five admirable chapters, Pratt describes and evaluates the milder forms of mysticism independently of the more extreme types. All in all, the volume is perhaps our best evidence that the psychological treatment of religion in general has outgrown its childhood and is now capable of making notable contributions to philosophy.

As regards special problems, perhaps the outstanding contribution is that made by J. H. Leuba in his *The Psychology of Religious Mysticism* (1925). Proceeding genetically, Leuba finds a continuity between the mystical ecstacy produced, among many peoples, by drugs and other physical means, the Yoga system of mental concentration, and the highest modes of mysticism. Proceeding comparatively, he finds striking resemblances between the outstanding aspects of the latter and various scientifically explicable

conditions, such as hysteria, neurasthenia, epileptic ecstacy, the trance (with its disturbances of time and space perception, its photisms and impressions of levitation, of increased moral energy and of ineffable revelation), and the sense of invisible presence. All of these problems are attacked with an analytic power and an expertness that have decidedly advanced the frontiers of our knowledge in a field as baffling as it is both practically and theoretically significant. By way of contrast with Leuba's essentially positivistic treatment, C. A. Bennett, in *A Philosophical Study of Mysticism* (1923), offers an interpretation in terms of what might perhaps be called a philosophical psychology. The analysis proceeds not from without but from within the experience itself. Following the view of Hocking,[10] Bennett urges that, while the mystic indeed thinks lightly of the values of the non-mystic or perhaps even neglects them altogether, he does so because of a conviction that this is the truest path to their ultimate conservation. The key to the life of the mystic is the principle of alternation: he turns away from the practical interests of life only to return to them with increased moral sensitivity, enthusiasm, and fruitfulness. For he has enjoyed a more comprehensive and vital contact with reality and has thus secured a broader vision and a restoration of power. In a recent paper,[11] Bennett similarly interprets worship as "a pause in the current of living," when the individual submits his spirit in holy awe to his God. In distinction from the worship of beauty, for example, religious worship restores

[10] In *The Meaning of God in Human Experience*. The date of this important book, 1912, places it outside the range of our direct survey. But we would here refer to one of Hocking's later works, *Human Nature and Its Remaking* (Yale University Press, 1918). The doctrine here set forth of a central instinct, conceived as a will to power, has been provocative. (*Cf.*, for example, B. W. Brotherston's paper on "Religion and Instinct" in J. of Rel., 1924, IV, 504-521.) Hocking's accounts of pugnacity, sex love, and ambition in their relation to Christianity are among the most profound discussions we have of these subjects.

[11] "Worship in its Philosophical Meaning." J. of Rel., 1926, VI, 486-503.

moral energy, replacing heroic resolve with creative inspiration. Equally insistent on the spiritual indispensability of mysticism, but treating it explicitly from the viewpoint of the distinction made by Roman Catholicism between nature and supernature, are the profound writings of the late Friedrich von Hügel.[12] An authoritative account, primarily developmental, of the main types of mysticism in India is now available in Dasgupta's *Hindu Mysticism* (The Open Court Publishing Company, 1927). The *Proceedings of the Sixth International Congress of Philosophy* (New York, 1927) includes five important papers read at the special session devoted to mysticism. The paper by Starbuck exemplified a novel approach to the subject. By the method of correlations Starbuck attempted to secure evaluations, singly and severally, of the interacting elements in combinations of relations within experience. In his investigations, for example, he found a positive correlation of .40 between the degree of mysticism and "the amount of religiosity in home training"; a positive correlation of .68 in relating mystical experience with participation in religious activities; a positive correlation of .67 between such experience and belief in a personal God.

Stratton's book, *Anger: Its Religious and Moral Significance* (1923) is a careful study based upon a psychological examination of the sacred literature of the more important religions of the world. Mention should be made of the second edition of Leuba's *The Belief in God and Immortality* (The Open Court Publishing Company, 1921). This work is a valuable psychological and anthropological investigation of the differences, as respects both origin and function, between early, primary conceptions and essentially different ideas of later appearance and different mo-

[12] *Cf.* especially the two series, published in 1921 and 1926, of *Essays and Addresses on the Philosophy of Religion*, and the monumental study, *The Mystical Element in Religion as Studied in St. Catherine of Genoa and Her Friends*, 2 vol., 2nd ed., London, 1923.

tivation. It also represents pioneer work in the scientific application of statistical methods to the study of religious beliefs. Of late, moreover, new investigations have been made of the springs and psychological nature of religion. During the earlier years of the present century erotogenetic and psychoanalytic theories had as their rivals primarily two doctrines. The one was functional. It conceived religion as the consciousness of the dominant values of group life and traced the latter to such social actions as are necessitated by human needs and demands in the presence of specific environmental conditions.[13] The other construed religion in terms of man's universal tendency to transform and idealize his world through action, imagination, and scientific discovery—a tendency culminating in the idea of the Perfect and the Best.[14] Within the past decade or so Coe,[15] writing from the standpoint of a self-realizationist, has presented us with a variant of the latter doctrine. He thinks of religion in terms of a deep-lying impulse to the organization of an experience that is self-critical, self-controlling, and creative of social and spiritual values. The process is regarded as one in which objects of absorbing interest are idealized, in which "the social instincts" come to preeminence, and in which one "finds one's real world partly by having a share in making it real." More recently W. K. Wright[16] has contributed to the problem by borrowing the conception of sentiment from the psychology of Shand and

[13] See especially Irving King's *The Differentiation of the Religious Consciousness* (1905) and *The Development of Religion* (1910); also E. S. Ames's *The Psychology of Religious Experience* (1910). For an examination of this doctrine, and a further bibliography, reference may be made to the present writer's paper, "Functional Interpretations of Religion: A Critique" in *Essays in Honor of J. E. Creighton* (1917).

[14] For a richly documented and illuminating portrayal of this thesis we are indebted to G. M. Stratton's *The Psychology of the Religious Life* (1911).

[15] *The Psychology of Religion* (1916).

[16] In his volume, *A Student's Philosophy of Religion* (1922), and in a later essay, "On Certain Aspects of the Religious Sentiment," J. of Rel., 1924, IV, 449-463.

McDougall. The religious sentiment is construed as an organization of primary instincts and emotions (specifically: tender emotion, fear, intellectual curiosity, and gregariousness) centering about, and evoked into activity by, various objects, primary among which is "the Agency through which the conservation of socially recognized values is sought," namely, among advanced peoples, God. The organization is strengthened by imitation, suggestion and sympathy; it sweeps within its circle such complex emotions as admiration, awe, gratitude, reverence, along with other sentiments relating to the conservation of the higher values.

Thinkers whose interests center in social psychology, sociology, and social reform have naturally stressed the social import of religion. Shailer Mathews notes a distinct reaction on their part against identifying Christianity with socialism; he finds, moreover, that in general their results have of late been practical rather than theoretical—the more creative writers have tended to turn from general principles to the demands of concrete situations.[17]. Conspicuous among these studies of religion from the "social" angle is *The Reconstruction of Religion* (1922) by the well known sociologist, Charles A. Ellwood. This book, though offering much that is useful in its chapters on the bearing of religion upon family, economic, political and social life, and though sound in its insistence that religion cannot spin practical programs from within itself but must derive them from the social sciences, suffers from fundamental confusions and ambiguities in basic principles.

More rewarding theoretically are such studies as E. E. Ericksen's *The Psychological and Ethical Aspects of Mor-*

[17] *Cf.* "The Development of Social Christianity in America" in *Religious Thought In the Last Quarter-Century,* p. 235. Reference may here be made to another paper of Mathews, "Theology from the Point of View of Social Psychology" (J. of Rel., 1923, III, 337-351), in which he contends that in distinction from philosophy, which is an unofficial and an individual interpretation, theology is an expression of group belief whose meanings must be sought by reference to social origins.

mon Group Life (1923) and A. W. Cook's *Sacraments and Society: A Study of the Origin and the Values of Rites in Religion (1924)*. Both of these essays are written from a viewpoint aspiring to be at once functional, genetic, and social. The same is true of the publications of E. S. Ames, who defines religion as "the consciousness of the highest social values," and denotes as non-religious all persons who are indifferent to, or destructive of, the social well being. But does not such a virtual identification of religion with social morality simply brush aside features that have always been distinctive of religion? At any rate we find numerous critics who insist that Ames fails to note important differences between adherents of organized religions and devoted atheistical servants of society; that he neglects the basic fact denoted by Schleiermacher's "sense of dependence" and Pratt's "attitude to the ultimate Determiner of Destiny," as well as religion's characteristic assurance that in our finest social attitudes and moral endeavors "we somehow have the very Heart and Soul of things with us and are aligning ourselves with the Eternal." Moreover, do we in our loftiest attitudes take our values as elaborations or as revelations? In answer to his critics Ames has pointed out that in our modern age religion is increasingly identified with social idealism and that, whatever the particular form given to the Deity at different levels of culture, and whatever the symbol, "the substance of the idea of God, the objective reality, is the Spirit of the group whose awesome will is enforced through the commandments of social custom." Thus Ames is led to a position very similar to that of the Durkheimians. When charged with subjectivism and idea-ism, he has countered with the query: Is Alma Mater a mere idea of fiction? Is it subjective? Has it not all the reality of buildings, faculties, donors, students, etc?[18]

[18] See his papers on "Religion in Terms of Social Consciousness" and "The Validity of the Idea of God" in J. of Rel., 1921, I, 264-270 and 462-481. Ames might be grouped with the instrumentalists of the Dewey school. Their

This, however, does not satisfy Hocking. Not even for practical purposes, he contends, is the group spirit identical with God. From the group's demands upon the individual, from its powers and enforcements, there is always, factually or potentially, an appeal to another spirit of a more absolute nature. At best the spirit of one's social order is somewhat external, undiscerning, and lacking in appreciation and understanding of the spiritual needs of the individual; it is here also God's function "to do better." Again, "if there be in the universe an object upon which there can be reliance *without criticism,* a *valid* object of worship, and a source of *peace,* that object must be other than the social good." Further, "perhaps the most practical of all religious functions has been its function of assuring individual minds that they may and should aspire without limit;—if religion is to do this, it must involve the whole sweep of the objects of the mind that worships, and not any finite part of them. But the social spirit is a very finite portion of the cosmos."[19]

Humanism's voice, however, continues to be raised;[20] and the religious movements of positivism and ethical culture have vigorous champions. Critics, such as Muirhead, Bosanquet, and Webb, have assailed the standpoint of the latter on the ground that moral and religious attitudes must be sharply demarcated. In the words of Bosanquet:[21] "Morality lies essentially in a recognition of the "ought-to-be"

outlook is essentially positivistic. In M. C. Otto's *Things and Ideals* the antitheistic note is clearly struck.

[19] Hocking, E. W.: "Is the Group Spirit Equivalent to God for All Practical Purposes?" J. of Rel., 1921, I, 487. From a very different angle, and with a totally different philosophy, G. B. Smith has called attention to features of religious experience to which theism seeks to give rational form: "Is Theism Essential to Religion?" J. of Rel., 1925, V, 356-377.

[20] *Cf. Humanism,* a late book by Curtis W. Reese (The Open Court Publishing Co., 1926) and a subsequent volume, under the editorship of Reese, and by the same publishers, *Humanist Sermons.*

[21] *Contemporary British Philosophy,* First Series, p. 59. The issue in question is one of the main themes of Bosanquet's *The Meeting of Extremes in Contemporary Philosophy* (London, 1921).

which is not . . . and therefore involves an individualistic conception of perfectibility . . . in particular finite spirits throughout a temporal progression. While religion, implying as a subordinate feature all that morality can imply of duty and self-improvement, is understood to lie essentially in a union by faith and will with a real supreme perfection in which finite imperfection, though actual, is felt to be transcended and abolished." Significant it is that in a recent essay, a leader[22] of the movement thus criticized, accepts this distinction between religion and morality and repudiates only the contention that the movement, at least as it is represented and championed by Felix Adler, was less than religious in Bosanquet's definition of the term.

From different angles it has been argued that theology and the philosophy of religion dissolve into psychology. Such, essentially, is the view of the psychoanalysts. Such also is the outspoken belief of a functionalist to whom we have already referred, E. S. Ames. Because "reality is given in experience," he urges, "the science of that experience," meaning psychology, furnishes "the reasonable and fruitful method of dealing with reality, including the reality of religion." But this line of argument proves too much; it engulfs physics and all sciences of nature and of man, as well as all philosophy, in psychology. Much more hotly debated, therefore, has been Leuba's thesis that belief in the gods or the God *of religion* (as distinct from the God of metaphysics) rests upon inductions drawn from religious, that is, from inner experience; that this realm "belongs entirely to psychology"; that "since the gods of religion are empirical gods they belong to science" and "theology is a branch of psychological science."[23] In the course of

[22] Stanton Coit in "Ethical Mysticism", a paper (also separately printed) published in *Aspects of Ethical Religion*, essays in honor of Felix Adler on the fiftieth anniversary of the Ethical Movement.

[23] These passages are from "Theology and Psychology", a chapter in Leuba's *A Psychological Study of Religion*.

his writing, however, Leuba tends to say, not what a strict interpretation of the above phrases would imply (and what critics have primarily called into question), but rather that psychology, as any science, makes recourse to what Comte would call theological and metaphysical modes of explanation unwarranted. Thus, instead of a denial of an objectively real God we sometimes seem to have merely the contention that "inner experience" requires only "its god" and that the introduction of a real being, causally manifest in specific events of religious experiences, is unnecessary for psychological intelligibility and quite out of accord with the nature of science. Perhaps Leuba's critics have not always construed him generously but, if he has at times been misunderstood, as he himself believes, he is himself not entirely blameless, for to a philosopher's vision his account often appears blurred and confused. He does not seem clearly to appreciate the fundamentally abstract character, and the consequent philosophical limitations, of a positivistic or "scientific" psychology. To be sure, a superhuman spiritual order, or a God, could not as such be the object of psychological science, nor could it through the resources of the latter be demonstrated to exist. Even *if* transcendental causes or divine activity were operative in human experience, such agency could not, by the very nature of psychological science, come within its purview. Whether or no God exists is thus a question whose answer carries us far beyond any results which empirical accounts of conscious processes, taken as events, can yield.[24] Leuba's earnest championship of the powers of psychological science, however, is valuable in view of continuing arguments that certain features of various religious experiences, such as "genuine" conversion, for example, are "explicable" only

[24] The most pointed criticisms of Leuba's position are perhaps those of Pratt (*The Religious Consciousness,* pp. 454-8); of Waterhouse (*The Philosophy of Religious Experience,* pp. 98ff.; and of Hocking (in a review of Leuba, J. of Phil., Psy., Sci. Meth., X, 328-333).

by reference to a higher Power. On the other hand, further work is needed in the determination of the powers and inherent limitations of a psychology of religion.[25] At the very least, it must live in comity with all other sciences and disciplines; it may not withhold its conclusions from assessment in the light of the results reached through other avenues of thought and experience.

S. Alexander has very properly insisted that "a philosophy which left one portion of human experience suspended without attachment to the world of truth is gravely open to suspicion; and its failure to make the religious emotion speculatively intelligible betrays a speculative weakness" (*Space, Time and Deity,* II, p. 353). It seems indeed even to be true that religious experience itself involves a demand for metaphysical justification. For, as Whitehead puts it (*Religion in the Making,* p. 85), "religion is the longing of the spirit that the facts of existence should find their justification in the nature of existence. . . . Science can leave its metaphysics implicit and retire behind our belief in the pragmatic value of its general descriptions. If religion does that, it admits that its dogmas are merely pleasing ideas for the purpose of stimulating its emotions"—an admission, of course, that religion absolutely refuses to make.

[25] Thoughtful essays on this subject have been published by H. C. Sheldon ("The Psychology of Religion Interrogated," Princeton Theol. Rev., XX, 41-56) and W. R. Matthews ("The Psychological Standpoint and its Limitations," an essay in a co-operative volume, *Psychology and The Church* (1925), edited by O. Hardman). Leon Roth's admirable study "The Goodness of God" (J. of Phil. Studies, II, 507-515) brings him to the conclusion that "the novel approach to religious questions proposed by the psychological theologian" accentuates rather than solves his problem.

III

The recent organization of the American Catholic Philosophical Association, with its quarterly organ, "The New Scholasticism" (beginning January, 1927) and the appearance (1927) of so substantial a volume as F. J. Sheen's *God and Intelligence in Modern Philosophy* are in themselves sufficient testimony of the vitality of a very important type of religious philosophy.

What is true of scholasticism holds also of the idealistic or speculative philosophy of such earlier writers as the brothers Caird and, later, of John Watson. Their religious doctrines received distinctive formulations, at the beginning of the second decade of our century, in the thought of W. E. Hocking, through his emphasis of worship and mysticism, and his skill in weaving the results of their analysis into a comprehensive account of concrete religious experience; of Josiah Royce, through his penetrating study of loyalty, the moral burdens of the isolated individual, and the saving power of the community; and, under the influence more notably of Hegel and Bradley, of Bernard Bosanquet. Truly remarkable for its distillation of thought is a later booklet by Bosanquet, *What Religion Is* (1920). Religion is discovered "wherever man fairly and loyally throws the seat of his value outside of his immediate self into something else which he worships, with which he identifies his will, and which he takes as an object solid and secure at least relatively to his private existence." The basic need satisfied by religion is that of salvation—salvation, be it noted however, not from pain, danger or hazardous enterprise, but from loneliness, isolation, and their attendant fears. Such salvation comes through dedicatory faith, through "giving ourselves to something which we cannot help holding supreme." Thus the substance of religion, for Bosanquet, is "justification by faith." The finite indi-

vidual, conscious of his unworthiness, inability and unreality, comes into union, through will and conviction, with a spirit which is a self-complete, perfect whole, a genuine individuality. Self-satisfaction on the part of the finite being is "the sin against the Holy Spirit." Evil is any experience conflicting with the complete service inspired by faith; sin is the persistence of that false or finite will which in genuine religion a man disowns.

Like Bradley, Bosanquet regards personality as a finite category, and hence he refuses to predicate it of the Absolute. This, and related considerations, impels him to differentiate between the God of religious experience, who is purposive and ethical, and the Absolute of philosophical contemplation, in which evil must be transformed or absorbed. So, in spite of the conviction that a man's religion offers him "the nearest approach to truth that he can make his own" and gives him "the clue to reality," Bosanquet tends to hold that in the last analysis it really discloses only "appearances," however high may be their degree of truth and reality. Herein his thought runs counter to that of C. C. J. Webb,[26] who, stressing the rational or common as against the exclusive features of personality, argues (as does Sir Henry Jones in *A Faith that Enquires*, 1922) that, if we are to be true to the attitudes and implications of religion, we must conceive God as both the Absolute and as personality. Webb likewise, however, recognizes the moral implications of finite selfhood, which therefore he refuses to relegate to the status of "appearance" or grant only an "adjectival" existence within the Absolute. To Galloway it seems highly doubtful whether this element of Webb's philosophy can exist in harmony with his absolutism. While agreeing that religion indeed takes God as the Ultimate Reality, Galloway construes this to mean "not that God is all that is real, but that He is the active

[26] In *God and Personality* (London, 1918).

Ground of the universe, the Supreme Spirit who is only limited in so far as He has limited Himself" (Mind, 1920, p. 478).

Those who think of reality in terms of individuated centers of consciousness, denying the ontological reality of everything save persons, and who describe religion in terms of personal relationships between finite spirits and God, have been not merely aggressive in their attacks upon the absolutists but also eager in the consolidation of their own positions. In contrast with the "atheistic personalism" of J. M. E. McTaggart, and the "purely ethical or teleological personalism" of Howison, their metaphysics culminates in a God conceived as ultimate in the sense of being the one, and the independent, causal ground of the world. The world is indeed given a measure of independence and of "otherness" from God, being regarded as the result of a free act of the divine creative will, but it is nevertheless said ultimately to be dependent upon Him. As grounded in a divine act, the human individual is described as more than a mere idea or mode of the divine consciousness, more than the thought which it expresses or by which it is apprehended. This outgrowth of the philosophies of Berkeley, Leibniz, Kant and Lotze has enjoyed strong championship on both sides of the Atlantic.[27]

Highly significant, moreover, are the considerations which A. E. Taylor[28] has been urging against absolutism, and his closely argued defence of theism. Sorley's *Moral Values and the Idea of God* (1919) is a carefully reasoned presentation of ethical theism. It "recognises the real world

[27] Among British writers may be mentioned James Ward, Hastings Rashdall, George Galloway, and C. A. Richardson. The most competent of recent American presentations of the doctrine is perhaps that in Albert C. Knudson's *The Philosophy of Personalism* (1927); somewhat earlier are E. S. Brightman's *Religious Values* and R. T. Flewelling's *The Reason in Faith.* Under the editorship of Flewelling, a quarterly journal, The Personalist, now in its eighth volume, is being published by the University of Southern California.

[28] *Cf.* the article on "Theism" in the *Encyclopaedia of Religion and Ethics.*

of persons as charged with the discovery and realisation of values, and it interprets the apparatus of life and its environment as subordinated to this supreme purpose" (p. 485); and it "issues in a view which finds the moral purpose of the world to be the purpose of a Supreme Mind and which regards finite minds as attaining unity with this Supreme Mind not by absorption of their individuality but by the perfecting of their character in co-operating with the divine purpose" (p. 473f.).

A. Seth Pringle-Pattison, though an early critic of Hegelianism's inadequate appreciation of the distinctness and value of the finite individuality, nevertheless refuses to pass to the extremes of the full fledged personalisms. His distinction between God and the Absolute is at times far from sharp. He is, however, clearly insistent that the divine is both immanent and transcendent.[29] God is described as creative, not in the sense of a creator *ab extra* (at this point there is criticism of Hastings Rashdall), but as a self-communicating life. The Absolute is generally conceived as "God-and-the-world," "a self-contained and internally organized whole, beyond which there is nothing." Though holding that individuals must not be regarded as mere channels through which "a single universal consciousness thinks and acts," Pringle-Pattison likewise rejects all views that deny "any self-consciousness except that which is realized in the finite individuals." When the extremes, personalism and Bradleyism, join in proclaiming that religion "is throughout a two-sided affair," Pringle-Pattison is glad to add his voice to theirs. In short, most readers of the latter's aristocratically conceived and executed book will agree with Bosanquet that, in its account of the relation of man to God, the "author is on a razor-edge balance" but that he

[29] We are in general referring to Pringle-Pattison's *The Idea of God in the Light of Recent Philosophy* (Oxford University Press, 1917), but at this point we have in mind also his essay, "Immanence and Transcendence" in *The Spirit* (1920), a collection of papers edited by B. H. Streeter.

is "finally influenced rather by ethical and conative than by religious and aesthetic experience" in determining man's degree of otherness and independence in relation to the divine life. The very conditions of human knowledge, Pringle-Pattison states, preclude us from comprehending how we may hold, as we feel constrained to do, both to ethical freedom and to the ontological dependence of man.[30]

Pringle-Pattison conceives the universe not as a finished reality of which man is a mere spectator but as a developing system whose culmination is the rational being. The latter is thus rooted in and organic to nature; and it is through him that nature finally acquires a consciousness of herself and a joy in her own being. Pringle-Pattison thus emphatically recognizes the principle of continuity while yet maintaining that this does not exclude, but on the contrary demands, the emergence of real differences. Here too he strives to preserve a "razor-edge balance." In his philosophy he thus exhibits an identity-in-difference, or a continuity-in-variation, with earlier idealisms.

There are those today, however, who contend for a much more radical discontinuity. In Lloyd Morgan's Gifford Lectures,[31] for example, we have a novel philosophy —a union of evolutionary naturalism and theism. Reality is portrayed as an ascending hierarchy of realities, each higher stage of which is "supernatural" to the preceding. That is, the higher stages are not implicit in the lower but genuinely emergent therefrom, and this relation obtains throughout the sweep of evolution, with its various levels of the inorganic, organic, psychic, rational and self-conscious. This entire development, Morgan teaches, must be described and empirically interpreted by the methods of

[30] Valuable symposiums covering issues touched in the above paragraph have been published (in two supplementary volumes, 1918 and 1924, respectively) by the Aristotelian Society: "Do Finite Individuals Possess a Substantive or an Adjectival Mode of Being" and "The Idea of a Transcendent Deity: Is the Belief in a Transcendent God Philosophically Tenable?"

[31] *Emergent Evolution* (1923) and *Life, Mind, and Spirit* (1925).

naturalism. But, while this holds true of each and every detail, the process as a whole is ultimately intelligible only as dependent upon Divine Purpose. "Spirit" is placed by Morgan neither within nor at the summit of the ascending hierarchy of realities. It is not conceived as an empirical quality towards which there is ever a nisus. Rather is it represented as that of which all the stages of the process are manifestations under the conditions of space and time. Thus the religious attitude transcends the moral attitude or any relation towards particulars or members of the evolutionary process; it is described as the acknowledgment of the Divine Purpose. In this view, the "ethical value of what the right-minded social person speaks of as 'playing the game' is not lost; the spiritual value of doing so in accordance with Divine Purpose, or "in God's sight," is gained" (*Life, Mind, and Spirit,* p.x).

Abandoning the theistic element of Morgan's philosophy, S. Alexander has presented, with magnificent sweep and with the utmost refinement of detail, a metaphysics of emergence moving from space-time to deity. God becomes the whole, infinite world "as possessing the quality of deity" or "with its nisus towards deity." Deity is an empirical quality, the "mind" lodged in a portion of the world, which, if we are to continue the analogy, might be conceived as the "body," "God's body"; Deity is an empirical quality hereafter to emerge, its promise and potency being some actual complexity or refinement of mind to which the fecund processes mothered by space-time have given birth. Deity is thus a quality transcending goodness, truth, and beauty, though in that particular line of development of which they are the actualized culminations. God may be termed good only by license, only if, by reference to one of the highest of the actually emerged values, we intend to suggest his perfection, the specific character of which, transcending as it

does all actualized emergents, lies beyond our ken. In another sense, God as the whole universe within which there is a soul or nisus towards deity, includes both good and evil. Yet as deity he is on the side of goodness for, on the one hand, this has a character of cosmic permanence when compared with evil ("morality is the nature of things") and, on the other, it is from the line of goodness that deity is to emerge. Thus, for Alexander (in his *Space, Time and Deity*) religion is "the sense of outgoing to the whole universe in its process towards the quality of deity; and just as Space is apprehended by intuition, sensible qualities by sensation, universals by thought, and values by appreciation, so God is apprehended cognitively through the religious emotion by the assurance we call religious faith" (II, p. 402).

Profoundly influenced by the doctrine of creative evolution as expounded by Bergson, H. Wildon Carr has described the conception of God which he finds implied therein. This conception, he writes, "is vague and formless. In the consciousness of our own finiteness, and in the perception that our knowledge is relative to our actions and that our actions are restricted in form and limited in range, there arises the idea of an encompassing existence from which we derive the spur and direction towards defined actions. Our experience seems to indicate an impelling force of external origin, a striving which is causing us to strive. We can fashion no likeness of it, not because to liken the supreme being to some earthly shape savours of sacrilege, but because man himself with all his furniture of aesthetic imagery is only one mode of this divine being. In contrast, therefore, to the God of the ontological argument whose idea includes existence, the God of creative evolution is existence which refuses to be comprehended under any idea" (*Changing Backgrounds in Religion and Ethics,* p. 86).

In his recent publications (see especially *Religion in the Making*) Whitehead sides with Bosanquet in conceiving the basis of religion to be justification; he places the emphasis somewhat differently, however, when he specifies religion's primary virtue to be sincerity. Succinctly put, religion for him "is the force of belief cleansing the inward parts" (p. 15). Only in its first glimmerings and in its decay is it, as the functionalists have held, primarily a social phenomenon, dominated by ritual and emotion. In its prime it is, as James maintained, what the individual "does with his own solitariness." But, in further departure from functionalism, Whitehead speaks of ritual as "the primitive outcome of superfluous energy and leisure," having "no direct relevance to the preservation of the physical organisms of the actors." With Alexander he thinks of religious experience as the "direct apprehension of a character exemplified in the actual universe," but he differs sharply in teaching that the God of rationalized religion is not temporal. He is the "actual but non-temporal entity whereby the indetermination of mere creativity is transmuted into a determinate freedom." He is not the totality of being, for he excludes evil: he is "a certain dominant and sustaining character or order of all being whereas evil is disorganization." Thus, God's goodness is his limitation. On the one hand, God transcends the realm of existence; indeed, apart from Him there would be no actual world. Moreover, he is "the binding element in the world"; the function "by reason of which our purposes are directed to ends which in our own consciousness are impartial as to our own interests"; "that element in life in virtue of which judgment stretches beyond facts of existence to values of existence." On the other hand, "apart from the actual world with its creativity, there would be no rational explanation of the ideal vision which constitutes God."

Two admirable volumes,[32] written by Henry Nelson Wieman under the influence particularly of Hocking and Dewey, define the religious attitude as the "mergence of the individual with the total movement of things," the "sense of dependence upon the whole and participation in the working of this total movement." God is by definition —and really He may be much more—that "Something of supreme value" in the universe which is "more critically, ultimately and constantly important for human welfare" than aught else. That this Something, God, exists is indisputable, as is the fact that He is good beyond compare. But further than this, knowledge, while not available in immediate experience, may be attained through the resources of science and philosophy operating with the material of specific experiences. Religion is not cut off from the truth it requires, but it requires more truth than it possesses; and the path for the acquisition of this, the most precious of all truth, leads out from worship and experimental living.

Thus Wieman belongs to the religious realists. But does he give sufficient credit to the naive, unreflective religious consciousness? Those of Rashdall's persuasion would answer: Far too much; all religious truth is mediate, the product of inference and reflection on experience. Macintosh,[33]

[32] *Religious Experience and Scientific Method* (New York, 1926) and *The Wrestle of Religion with Truth* (New York, 1927).

[33] *Theology as an Empirical Science* (New York, 1919) and *The Reasonableness of Christianity* (New York, 1925). In part the question at issue in the above paragraph involves that of whether religious experience itself, prior to all theologizing and philosophizing, includes more or less explicit cognitive elements. Present psychology here tends towards an affirmative reply. Collingwood makes creed, that is a view of the universe, the center and foundation of religion, and denies that theology is simply a superstructure erected on the basis of experience. (*Cf. Religion and Philosophy,* London, 1916.) According to Tennant's review in Mind (N. S. 31, p. 229), W. R. Matthews, in his *Studies in Christian Philosophy* (The Boyle Lectures, 1920) "holds that there is no such thing as religious experience that is prior to the fashioning of theological ideas, and that whatever is *sui generis* in religious experience is to be sought, not in the affective and conational elements which such experience contains, but in the ideas which are employed to colligate them and to assign them a causal explanation."

on the other hand, would answer the question in the negative. In his view, life need wait upon the development of explicit, critical scientific methods neither for religious nor for other knowledge. The existence and the essential features of God are both known in living experience. Theology must and may be converted from a speculative into an empirical science. As such it assumes the existence of the object it investigates. Our pre-theological assurance of God's existence is gained through an intuition which involves "perception in a complex"—a form of intuition exemplified also in the awareness of one's own existence, of the existence of other persons and of physical objects. At the very beginning of theological inquiry, moreover, one realizes that God "is great enough and good enough to enable us, when rightly related thereto, to be spiritually prepared for whatever experience we may have to meet." The affirmations of experience should wherever possible receive verification and expansion through scientific methods, but the ultimate court of appeal is nevertheless experience itself.[34] Yet the experience to which this appeal must be made is that of those who make what is described as the "right" and "dependably successful" religious adjustment. If we inquire wherein "right adjustment" consists we are told that for this knowledge we must go to experience. Thus, in spite of his attempted objectivism, Macintosh ultimately espouses a form of subjectivism. Moreover, as we have put it elsewhere: "The attributes of God are determined in the last analysis solely by reference to human needs and experiences, and hence are interpreted pragmatically. But precisely by what logic are certain experiences singled out as caused by God and therefore as revealing His nature, whereas others are ascribed to natural or to human agencies? Moreover, if we know, as it is argued, that the

[34] In his *Religion and the Mind of Today*, Leighton defends intuition as a valid form of knowing but also requires that all intuitions justify themselves "by fitting harmoniously into the interpretation of reality as a whole" (p. 192f.).

devil does not exist, so that evil choices are an expression of human volition, why should we not similarly hold that our aspirations for the good likewise grow out of experience or emanate from the human will?"

Temple's *Mens Creatrix* (London, 1917) declares that the problem of evil is the nub of the philosophy of religion, and in this A. E. Taylor agrees. For, the undeniable and insistent reality of evil, as a fact both of inner life and of outer nature, makes acute the question, Does God exist? We face not alone the problem concerning the origin of evil but, once we accept the reality of God, also that concerning its good. As to this Temple maintains, and again Taylor assents, that "the victory of good over evil is itself at least one of the greatest goods; and *this* good would be impossible in a world where there was no evil to overcome." According to Bosanquet, religion, while to some extent transcending the conflict between good and evil, nevertheless remains determined by this transcendence. Hence our consciousness of the Absolute must be a somewhat different mode of awareness than religion affords. Describing this consciousness Bosanquet writes: "We are aware of a strength and amplitude of the world. . . . The universe, we feel, though it is a rough place, and not exactly fitting into the frame of good as against evil, is great and splendid in ways that are to us inexhaustible. . . . The universe is the magnificent theatre of all the wealth of life, and good and evil are within it."[35] Very different, again, are White-

[35] Bosanquet, B., *The Value and Destiny of the Individual,* p. 311f. A somewhat kindred spirit, Josiah Royce, gave much attention in his later works to the doctrine of original sin. He interprets this as a moral burden which inevitably falls upon the finite individual in the process whereby he attains to self-consciousness. The individual comes to feel a lack of and need for a principle that will satisfy, energize and harmonize his own nature and bring him into the requisite union with his fellows. This saving principle is that of loyalty; it must be vouchsafed to man from without and from above, through a medium that expresses the spirit of a "beloved community." Then there is the sin of the traitor, of him who is wilfully disloyal to the cause he has espoused. Here salvation comes through the sacrificial devotion of some loyal

head's remarks on the topic of evil. In contrast with the good, which is positive and creative, evil, he explains, is positive and destructive. Even evil, however, in "its aspect of triumph in its enjoyment," is good; and, temporally regarded, evil is essentially unstable—herein, indeed, is evidenced the fact of a moral order in the world. Again, through destruction, degradation or elevation, evil promotes its own elimination. To illustrate: "A species whose members are always in pain will either cease to exist, or lose the delicacy of perception which results in that pain, or develop a finer and more subtle relationship among its bodily parts."[86]

But does an acknowledgment of evil, of a degree of independence on the part of finite individuals, of the fact that religion is "throughout a two-sided affair," of the conclusion that religion only partially transcends the active dualism between good and evil and that all categories of practice are limited—does an acknowledgment of one or another of these or other points indicate the finiteness of the divine being? A growing number has followed J. S. Mill and William James in so believing. We think, among the popular writers, of H. G. Wells (*cf.* his *God, the Invisible King*). Among technical philosophers those personalists who at all admit the reality of God are very generally committed to the thesis that He is in some respects limited, though this limitation is described as a self-limitation arising from the nature of God as creative, out-going love, as a spirit of social participation and self-communication. Other thinkers see in pantheism an all-engulfing and therefore altogether repelling doctrine, and hold, with Waterhouse, that any "philosophy in which God is not in some sense finite is pan-

member of the community whose deeds reclaim the evil doer and create a finer community. Hastings Rashdall (Mind, N. S. 23, p. 415), has criticized this doctrine of "objective atonement."

[86] Whitehead, A. N., *Religion in the Making*, p. 96.

theistic" (*Modern Theories of Religion,* p. 296). Speculative idealists like Bradley and Bosanquet distinguish between God and the Absolute and ascribe self-completeness, perfection, and full reality to the latter alone. Increasing deference to empirical considerations has led Balfour, Carr, Rashdall and others to endorse the words inscribed on the scapula which Pascal wore near his heart: *"Dieu d'Abraham, Dieu d'Isaac, Dieu de Jacob—pas le Dieu des philosophes et des savants."* "Experimental religion," Macintosh contends, repudiates the view that God is absolutely unconditioned. He may be called infinite only hyperbolically, to indicate his freedom from all limitations that would render him inadequate as "the Object of absolute dependence and worship." Ranged over against the large company we have indicated, however, there are other leaders of thought who refuse to admit that the demands of the awakened soul or of philosophic doctrine can be satisfied by any being who is limited either as to power or goodness, who is dependent for his existence or his nature upon any other reality, or who is involved in struggle. In this refusal Webb and Pringle-Pattison are joined by Temple and A. E. Taylor, as well as by Radhakrishnan, the latter of whom has made this problem the theme of his *The Reign of Religion in Contemporary Philosophy* (London, 1920).

Kant once declared that without a belief in a future life religion cannot be conceived to exist. If this statement is to escape wreckage by familiar facts, we must interpret it to mean that immortality is a rational implication of religion. Since it was made, however, many religionists and philosophers have tended toward a diminished interest in and emphasis upon the doctrine of immortality.[37] Toward

[37] As regards American men of science Leuba has presented valuable statistics in his *The Belief in God and Immortality.* On p. 181 n. of this book he cites studies of other investigators who dealt with different groups. Recent Ingersoll lecturers at Harvard University differ in their estimates as to how firmly rooted in human nature the desire for personal immortality is. For

the close of his colossal work, *Space, Time and Deity,* Alexander admits (II, p. 424): "Should the extension of mind beyond the limits of bodily life be verified, so that a mind can either act without a body or may shift its place to some other body and yet retain its memory, the larger part of the present speculation will have to be seriously modified or abandoned." In his *The Idea of Immortality* (Oxford, 1922), Pringle-Pattison bases immortality on the existence of a beneficent and loving God. But, one might urge, even granting God's existence and granting further that He has an interest in the continuance of human individuals, how may we be certain of immortality when we consider that evil is real and that God's desires are therefore sometimes not fulfilled? So Sir Henry Jones (in *A Faith that Enquires,* London, 1922) makes the point that abandonment of the belief in personal immortality must carry with it that of belief in a God of limitless love and power. Galloway's monadological idealism of course gives to the finite spirit a place of distinct worth and relative independence in relation to both the realm of nature and the Supreme Mind, yet it withdraws from the contention that an exclusively metaphysical or psychological argument can prove or even establish the probability of personal immortality.[88] Rather does it base immortality on the demands

thoughtful discussions of various phases of the general problem of immortality the reader may turn to four of these lectures: *Living Again* by C. R. Brown; *Immortality and Theism* by W. W. Fenn; *Immortality and the Modern Mind* by Kirsopp Lake; *The Sense of Immortality* by Philip Cabot. (These four books were published, in 1920, 1922, 1922, and 1924 respectively, by the Harvard University Press.)—J. G. Frazer's Gifford lectures (1911-1912) on *The Belief in Immortality and the Worship of the Dead* are a comprehensive study of an important group of customs and beliefs among primitive peoples.

[88] More importance is attached to these considerations by Tsanoff who writes (*The Problem of Immortality,* New York, 1924, p. 372f.): "Worth-attainment, striving after perfection, conservation of value, moral aspiration cannot be frustrated in the universe. We reflect that they are all essentially personal in character; that, unlike material things, persons are not in any sense compounds, but individualized systems; that if value is to be conserved, the character of the universe must include personal immortality."

of immanent justice and on the moral consciousness generally, with its insistence upon coherence and harmony in a moral universe. Webb's outlook is less determined by ethical experience; what militates against the supposition that an individual "is not secure in God" is for him primarily a "consciousness of religious value in our unique individuality." . . . Spiritualistic literature has abounded, but there has been no appreciable tendency on the part of either psychologists or philosophers to hold that metapsychic phenomena prove the fact of immortality, though there are those who believe that we have well attested facts which establish at least the very high probability of a period of survival after death in the case of certain spirits.[89]

We are today witnessing intense activity on the part of a group who refer to themselves as fundamentalists. Despite psychological science, they insist that we possess truths that in no wise reflect human insight or personal-social experience but that have emanated directly from the mind of a transcendent God as a pure revelation to man. Despite historical science, they clutch to bodies of fact long discredited by empirical methods. Despite scientific conclusions generally, they so revere certain doctrines—some of them incomprehensible save only to students of the history of thought and culture—as to deem them essential for salvation from the fires of hell. Ritualistic practices which, to anthropologically and sociologically oriented minds, cannot have other than a symbolic significance, are regarded as essential steps in the only path to salvation and eternal bliss. In sharpest opposition to such a point of view is that of thinkers who, starting from what man has found to be true or highly probable, arduously forge ahead that they may bit by bit dispel the outer area of darkness; or, to put the

[89] Special attention may be called to a symposium recently held at Clark University and published under the title *The Case For and Against Psychical Research.*

matter differently, who, through intellectual strategy and heroic effort strive to transform a view that is dim, confused and patchy into progressively clearer, fuller and more substantially buttressed knowledge. Tawney and Lake have cogently pled for an attitude of experimentalism in religion,[40] and, indeed, most of the writers to whom we have called attention in this paper, however they may differ in their conclusions, are at one in taking their cues from science and human experience.

But whereas the conflict between fundamentalism and the various forms of liberalism, including experimentalism, rages only on the arena of life, there is today another controversy that occupies also the forum of scientific debate, namely, the issue between theism and a certain type of humanism. Theism grows out of experiences of dependence and ineptitude, and involves attitudes of faith, trust, worship and reverence towards the most real being, the "Determiner of Destiny"; the humanism in question, construing theism as a lingering survival of antiquated views, identifies religion with social idealism, and, metaphysically, with meliorism. But of this controversy some reference was made above, and an admirable discussion may be found in D. S. Robinson's recent book, *The God of the Liberal Christian,* which, though liberal in outlook, yet refuses to equate religious with social experience or to identify religion with the moral quest.

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[40] *Cf.* Tawney, G. A.: "Religion and Experimentation," Int. J. of Eth., XXXVI, 337-356; and Lake, Kirsopp: *The Religion of Yesterday and Tomorrow,* New York, 1925.

PHILOSOPHY OF THE EXACT SCIENCES: ITS PRESENT STATUS IN GERMANY[1]

I

BETWEEN the exact natural sciences on the one hand, and the dominant philosophy on the other, there is still lacking in Germany that intimate connection which is really desirable in the interests of both. In part this state of affairs must be charged to the representatives of natural science. Because their subjects are highly specialized, they easily lose a view of the whole and then face philosophical problems quite without comprehension. Nevertheless it is precisely in recent years that a lively philosophical interest is appearing among German physicists and mathematicians. Indeed a number of them, as we shall see, have themselves done significant philosophical work on the borderlands of their sciences.

In contrast herewith, it must be admitted that it is particularly among those representatives of German philosophy who are playing a leading rôle in the philosophical life of Germany that we find but a slight insight into those philosophical problems which emerge from the work of mathematicians and physicists. Even today we have the spectacle of philosophers who lay claim to a guardianship over natural scientists. We still find philosophers rejecting scientific results which are verifiable only through experimentation or mathematical calculation because these results conflict with the allegedly apodictic truths of phil-

[1]Translated from the German by Edward L. Schaub.

osophy. Another favorite attitude of technical philosophers expresses itself in the assertion that the conclusions reached by natural science through painstaking experimental labor are but a confirmation of the results which the philosopher has long since attained through pure thought.

In antithesis hereto is the philosophical work which it is our purpose to report. It has been carried on in close junction with the exact sciences, partly by the representatives themselves of these sciences, and partly by such philosophers as have included this subject in their studies and are therefore able comprehendingly to follow the developments in this field.

This latter group of investigators may not really be called a school of philosophy. Nevertheless, all of the scholars that here deserve mention hold certain fundamental principles in common. In the first place, they repudiate the premature construction of a philosophical system. Further, they are at one in their unreserved respect for the conclusions of natural science. This does not mean that they unconditionally recognize as valid everything which any scholar proclaims as the outcome of his investigations. But, in their view, the results of a science must be confirmed or refuted, as the case may be, by the methods and devices of this science itself.

One representative of this movement, Hans Reichenbach, has at times described its method as "scientific-analytical"; another, Kurt Lewin, has developed a sort of program of what he designates the "comparative doctrine of science."[2] He delimits the science of knowledge from other sciences, more especially from epistemology and logic. It becomes manifest, however, that, in its present stage of development, epistemology in particular shares with the science of knowledge a number of essential methodological traits. Among these, in addition to the

[2] *Über die vergleichende Wissenschaftslehre,* reprinted from the Symposion. Erlangen, 1926.

features already referred to, are a relatively strong emphasis upon "description" as contrasted with theory, and a preference for specialized problems, in distinction from general and fundamental questions which in consequence tend to recede into the background.

II

The publications which I must consider in this paper fall into two entirely distinct groups. The one is linked with investigations of the foundations of arithmetic and has more the character of logic; the other deals with the bases of physics (including applied geometry) and is more epistemological in its nature. We will first take up the former of these groups of studies.

In their philosophical aspects, the foundations of mathematics, and especially of arithmetic, have in the past been examined for the most part with a view to determining whether arithmetic is an independent science with a thought structure all its own, or whether it is but a branch of logic. This question continues to play a rôle even today. But in general we have in more recent years passed, in this field, to more concrete and specific questions.

As regards Germany, three tendencies demand our notice—tendencies which in part originated in this country and in part, at the very least, here found adherents and collaborators. We would mention first of all the intuitionists. Their leader is the Hollander, L. E. J. Brouwer, but they have also found a zealous champion in the German mathematician, Herman Weyl. Brouwer has presented his ideas in a long series of essays published in various mathematical journals. One of his studies of importance philosophically has appeared in the English language.[3] Weyl has expounded his and Brouwer's views in his essay, *Über*

[3] "Intuitionism and Formalism," *Bulletin of the American Mathematical Society*, Vol. 20, 1913.

die neue Grundlagenkrise der Mathematik;[4] in a wider framework he presents them, together with the other tendencies which it will devolve upon us to notice, in *Die heutige Erkenntnislage in der Mathematik,*[5] and in *Philosophie der Mathematik und der Naturwissenschaft.*[6] A cursory exposition of intuitionism, based however not on Brouwer but on Weyl, has been furnished by Betsch in his *Fiktionen in der Mathematik.*[7] Perhaps the best brief presentation of Brouwer's ideas is that in Fraenkel's book *Zehn Vorlesungen über die Grundlegung der Mengenlehre.*[8] Finally we would also mention a short essay which, in a popular but very clear manner, furnishes orientation on the controversy between the intuitionists and the formalists: *Formalismus und Intuitionismus in der Mathematik,*[9] by Baldus.

In the philosophical world, the doctrine of Brouwer has become known primarily because it contests the validity of the logical principle of the excluded middle. To understand this we must know that, as regards the relation of logic to mathematics, Brouwer espouses a view antipodal to that, for example, of Frege and Russell. Whereas the latter hold that mathematics is a branch of logic, Brouwer maintains, conversely, that logic has its foundations in mathematics. He declares that the Aristotelian logic originated by abstraction from the mathematics of finite classes and was then erroneously universalized. The transfer of logical principles from finite to infinite classes leads at times to meaningless proportions—in particular is this true in the case of the just mentioned principle of the excluded middle. The question whether a class includes things of a given nature may, in the case of a finite class,

[4] *Mathematische Zeitschrift,* Bd. 10, 1921.
[5] Reprinted from the Symposion, Erlangen, 1926.
[6] *Handbuch der Philosophie,* München und Berlin, 1927.
[7] Stuttgart, 1926.
[8] Leipzig, 1927.
[9] Karlsruhe, 1924.

be answered, theoretically, by an examination of every single element comprised therein. Either we thus find a thing with the requisite character or we learn that the class contains none such: *tertium non datur*. Quite otherwise in the case of an infinite class. Here it may be true that we are neither able to prove that no element of the requisite character is comprised within the class nor to exhibit such an element, that is, to construct it. According to the classical logic, one might in a case of this sort nevertheless affirm that such an element either does or does not exist. This contention is regarded by Brouwer as meaningless, and all of the conclusions derived therefrom he considers false. This will further explain why he rejects the thesis that all mathematical problems are solvable. Moreover, the concept of "existence" in mathematics thus acquires a new meaning. In distinction from those who hold that (mathematical) objects may be said to exist if they are consistent with mathematical axioms Brouwer predicates existence of only such objects as may be constructed.

The possibility of such construction, however, presupposes an intuition or *Anschauung;* hence the name "intuitionists." The primal intuition of mathematics is expressed in the inference from n to n + 1, in so-called "complete induction." By its aid the mathematician, according to Brouwer, can even secure an infinite number of conclusions.

We may not here enter upon the consequences of this doctrine for mathematics. For philosophy its chief feature is its critique of logic. To be sure this critique has not as yet found wide acceptance in philosophical circles. Nevertheless Heinrich Scholz refers to a *Grundlagenkrise der Logik* in a book, shortly to appear, wherein Brouwer's criticism of the Aristotelian logic is brought into parallel with that of Hegel.

In contrast with the intuitionism of Brouwer and Weyl

we find the doctrine of the so-called "formalists," whose leader is the well known Göttingen mathematician, David Hilbert.[10] Among his collaborators we should mention W. Ackermann,[11] Paul Bernays,[12] and J. v. Neumann.[13] The aim of the "formalists" is very similar to that of the intuitionists. They desire, as Hilbert puts it, "definitively to banish from the world all universal doubt as regards the trustworthiness of mathematical inference." In common with the intuitionists, the members of the Hilbert school regard it as impossible to base mathematics exclusively on logic. Moreover, the latter also contend that mathematics requires "certain extra-logical, concrete objects present to intuition, prior to all thought, as immediate experience." Mathematical conclusions are certain only so long as the mathematician restricts himself to "finite" assertions concerning these objects and their combinations, that is, to assertions which may be verified through a finite number of steps. In so far, the formalists and intuitionists seem to be at one. Whereas, however, Brouwer and his adherents are thence led to reject all mathematical propositions which cannot be thus established, Hilbert advances a procedure whereby it is possible to establish also "transfinite" propositions in a finite manner. This procedure is an adaptation of one which mathematicians have long employed with great success in progressively extending the concept of number or in introducing into geometry so-called "ideal" elements (such as infinitely distant points,

[10]The most important of his works relating to arithmetic are: *Über die Grundlagen der Logik und Arithmetik* (Verhandl. d. III intern. Mathematikerkongresses zu Heidelberg, 1904); *Neubegründung der Mathematik*, Abhandlung a. d. math. Seminar der Hamburger Universität, I, 1922; *Die logischen Grundlagen der Mathematik*, Math. Annalen, Bd. 88, 1923; *Über das Unendliche*, Math. Annalen, Bd. 95, 1925.

[11]*Begründung des tertium non datur mittels der Hilbertschen Theorie der Widerspruchsfreiheit*, Math. Annalen, Bd. 93, 1924; *Die Widerspruchsfreiheit des Auswahlaxioms*, Nachrichten der Göttinger Ges. d. Wissenschaften, 1924.

[13]*Zur Hilbertschen Beweistheorie*, Math. Zeitschrift, 1926.
d. deutschen Mathematikervereinigung, Bd. 31, 1922.

[13]*Zur Hilbertschen Beweistheorie*, Math. Zeitscrift, 1926.

straight lines and planes). We here have to do with deliberate fictions devised in order to guarantee the universal validity of certain simple laws, as for example the axioms of projective geometry. In Hilbert's view (which is at this point in sharp contrast with that of Brouwer), we may be sure that this procedure is justified if (1) the extended system is free from contradiction and (2) the procedure really leads to the desired result. In order to demonstrate that the enlarged system reached through transfinite modes of inference is free from contradiction, all of mathematics is "formalized." That is to say, the meaning of mathematical symbols is disregarded and every mathematical proof is thought of as a figure constructed from certain fundamental elements in accordance with determinate rules. (These symbols, of course, must include not merely some of a strictly mathematical lineage but also others involved in logical calculation.) Mathematics thus formalized is constituted the object of a new branch of science, "metamathematics." In the latter, which employs only finite modes of inference, it is demonstrated that in formalized mathematics no contradiction can arise. Thus in mathematics we may without hesitation employ, among other principles, that of the excluded middle, inasmuch as we may be sure that we will not, through its use, land in contradiction. We cannot enter upon the interesting philosophical questions to which this theory gives rise. In concluding our account we would but characterize the two main tendencies already described by an analogy from political life. If intuitionists have been characterized with a certain propriety as revolutionists who overturned the *ancien regime,* Hilbert might be compared with a Napoleon who, without regard to considerations of legitimacy, established, through a brilliant political stroke, a new order whose success is the substitute for legitimacy.

The third distinguishable tendency in investigations of

the foundations of arithmetic continues the work of George Cantor, the originator of the theory of classes. That arithmetic might be based on the theory of classes was known even to Cantor. However, the contradictions which revealed themselves in the further development of this line of thought generated doubt with respect to the solidity of this basis. Ernst Zermelo, in a number of treatises published in 1908 and 1909, was the first to set up a system of axioms from which all of the then known theory of classes could be deduced with the exception of the antinomies. In my dissertation of 1910, I myself showed that the doctrine of integral numbers might even be based on a narrower system of axioms. This axiomatization of the theory of classes has in recent years been continued more especially by Adolph Fraenkel.[14] Of late, however, serious doubts have been urged (particularly by J. v. Neumann) against the possibility of such an axiomatization. The controversy thus arising has not as yet been terminated.

We must now refer also to a number of logical-mathematical pieces of work which are more or less closely connected with the researches already mentioned without, however, belonging to any one of the three tendencies described. The logical theory of axiomatics is discussed by Paul Hertz in two treatises on *Axiomensysteme für beliebige Satzsysteme*.[15] This interesting attempt remains, thus far, incomplete. More psychological in character is a work by the same author on *Über das Denken*.[16] A number of investigations by Walter Dubislav relate to *Das Verhältnis der Logik zur Mathematik*. An essay under this title[17] has as its chief aim a new and original proof that mathematics is not deducible from logic. To me this

[14] *Cf.* his *Einleitung in die Mengenlehre*, 3. Aufl., Berlin, 1927; also the above mentioned *Zehn Vorlesungen;* in addition, a number of scattered treatises.

[15] Mathematische Annalen, Bd. 87, 89, 1922-23.

[16] Berlin, 1923.

[17] In Annalen der Philosophie, Bd. V, 1925-26.

proof seems unsuccessful. In distinguishing logic from mathematics it is a frequent practice to introduce the Kantian classification of judgments into "analytical" and "synthetical." Dubislav discusses this classification in an essay, *Über die so genannten analytischen und synthetischen Urteile.*[18] He analyzes a number of attempts to improve this classification and concludes with a proposal for a classification relative to a system of axioms. To differentiate mathematics from logic such a relative classification is certainly not adapted. Finally, we would mention another publication by the same writer, *Über die Definition,*[19] which deals with related questions. To the problem of definition Rudolph Carnap likewise turns in his brochure, *Über eigentliche und uneigentliche Begriffe.*[20] In a more comprehensive work, as yet unpublished, he is undertaking to erect a system of the sciences on the basis of a construction of concepts.

As is well known, Hans Vaihinger, in his *Philosophie des Als-ob,* relied in a particular degree upon the fictitious character of certain mathematical concepts. He utilized, as his most authoritative witness, primarily the celebrated geometer, Moritz Pasch, though in this, to be sure, he was scarcely justified. Pasch, in numerous philosophical discussions of the nature and foundations of mathematics, adopted a distinctly empirical standpoint. As his latest publication I refer to *Mathematik am Ursprung.*[21] I cannot touch upon the details of these problems. A very searching investigation of the rôle of fictions in mathematics can be found in the above-mentioned book by Betsch. This writer comes to the conclusion that mathematics does not operate, as Vaihinger maintained, with fictions.

[18] Berlin, 1926.
[19] Berlin, 1927.
[20] Reprinted from Symposion, Berlin, 1927.
[21] Leipzig, 1927.

III

We now turn to our second group of philosophical investigations, namely to those that relate to the foundations of physics, including physical geometry, and that are bound up more or less closely with the theory of relativity. It is particularly the following thinkers—some of them already mentioned in other connections—who have made contributions in this field: R. Carnap, M. Born, H. Dingler, A. Einstein, H. Reichenbach, M. Schlick, and H. Weyl.

Let us begin with the general epistemological problem of physics: What is the relation, in this field, of rational knowledge, experience, and deliberate postulation?

The older doctrine, in dependence chiefly upon Kant, maintained that empirical natural science has, as its basis, a "pure" science consisting of *a priori* truths. Only upon this basis, it was believed, could one, with the aid of experimentation and observation, erect a theoretical natural science. In opposition hereto there came, more especially from England (J. S. Mill), an extremely empirical view, which, however, was unable to maintain itself. Today there are essentially three competing doctrines: (1) the rationalistic, already mentioned; (2) the conventionalistic, which insists that all non-empirical elements of science are derived from convention—indeed in its most extreme form it even maintains that all universal assertions of science are postulations (Dingler); (3) the moderately empirical, to which we will need to give somewhat closer attention. Recent discussions of these questions for the most part take their departure from the theory of relativity. The following publications should here be mentioned: Representing the conventionalistic view, first of all the numerous works of Hugo Dingler.[23] A moderate conventionalism char-

[23]The most important of which are *Physik und Hypothese* (Leipzig, 1921), *Grundlagen der Physik* (2 Aufl., Berlin, 1923), *Relativitätstheorie und Ökonomieprinzip* (Leipzig, 1922), and *Der Zusammenbruch der Wissenschaft* (München, 1927).

acterizes Carnap's essay, *Über die Aufgabe der Physik.*[24] Of the empirical group: Max Born, *Die Relativitätstheorie Einsteins;*[25] Einstein, *Geometrie und Erfahrung;*[26] Hans Reichenbach, *Relativitätstheorie und Erkenntnis a priori,*[27] *Der gegenwärtige Stand der Relativitätsdiskussion,*[28] *Axiomatik der relativistischen Raum-Zeitlehre,*[29] and *Philosophie der Raum-Zeitlehre* (soon to be published); Schlick, *Raum und Zeit in der gegenwärtigen Physik,*[30] *Allgemeine Erkenntnislehre,*[31] and *Kritische oder empiristische Deutung der neueren Physik.*[32] Here also belong, though to be sure with certain reservations, the writings of Hermann Weyl: in addition to his already mentioned contribution to the *Handbuch der Philosophie,* his *Raum, Zeit und Materie.*[33]

The train of thought of Dingler's conventionalism may be briefly summarized as follows: The results of observation and experimentation do not by themselves yield theories unambiguously. On the contrary, it is always possible, through the introduction of suitable auxiliary hypotheses, to bring any accepted theory into harmony with experience. To construct a theory of natural phenomena, therefore, one always requires a framework of principles which are not derived from experience. (Indeed, according to Dingler, universal assertions can never be derived from experience.) In so far Dingler's view is in entire harmony with that of Kant. But Dingler rejects the *a priorism* of the Kantians on the ground that the alleged self-evidence of the axioms is no criterion of their truth. He therefore regards axioms as postulates that depend upon the decision of the scientist.

[24]Kantstudien, Bd. 28, 1923.
[25]2. Aufl., Berlin, 1921.
[26]Berlin, 1921.
[27]Berlin, 1920.
[28]Logos, Bd. X, 1922.
[29]Braunschweig, 1924.
[30]4. Aufl., Berlin, 1922.
[31]2. Aufl., Berlin, 1925.
[32]Kantstudien, Bd. 26, 1921.
[33]5. Aufl., Berlin, 1923.

If, now, science is not to dissolve completely into chaos, the selection of postulates may not be left to the arbitrary choice of the individual investigator, but must be guided by a superior principle. The latter is the principle of economy—the principle that had previously been stressed by Ernst Mach. In this case it requires that, of all possible sets of axioms, the simplest be selected. For geometry, these are the axioms of Euclidean geometry; for mechanics, those of the Newtonian mechanics. The theory of relativity is rejected by Dingler because he believes that it violates the principle of economy. In his judgment, Einstein, in order to gain simplicity in a limited field, sacrifices the simplicity and therewith, above all else, the unambiguity of the entire structure of physics. If we were to reconstruct the entire system from the ground up whenever we were unable forthwith to include some new feature into the established system, we would witness what Dingler in his last great publication describes with moving words as the "collapse of science."

In contrast herewith, critical empiricism, as we might designate the modern form of empiricism, in distinction, perhaps, from that of a J. S. Mill, holds to the following standpoint.[34] It concedes to *a priorism* and conventionalism that single physical laws cannot be derived solely from observations and experiments. Indeed one may not, either with certainty or probability, proceed by inference from one or several observations to other observations; consequently, also, one may not infer the existence of a law. For such a conclusion there is in every instance required a principle which Reichenbach calls the "principle of normal induction." It states that for a given body of experiential data one always utilizes the most probable inter- and extra-

[34]In our account we shall follow essentially the line of thought pursued in Reichenbach's essay, *Relativitätstheorie und Erkenntnis a priori*. The other above-mentioned publications of the empirical tendency, however, in the by and large move in about the same channels.

polation. But in general this principle does not suffice. On the contrary, in the theoretical interpretation of any physical observations a large number of assumptions are generally made, and as a rule these assumptions may not be completely envisaged. Doubtless they include, more especially, geometrical axioms and the fundamental equations of mechanics. If these propositions are themselves in turn to be based on observations and experiments, we apparently have a logical circle. For this reason the rationalists as well as the conventionalists maintain that these propositions are known or established independently of all experience. Were this view valid, it would follow that the data of observation could be incorporated into every proposed system of principles, unless one assumed a pre-established harmony between the principles prescribed by reason, or by the principle of economy, on the one hand, and the facts of observation on the other. Now, the development of the theory of relativity has proved—and herein consists its epistemological importance—that there is a system of principles which is irreconcilable with the facts of observation. Furthermore, this system comprises precisely such principles as physicists and philosophers had thitherto recognized as valid and therefore made the basis of their inductions. This, however, proves that it is possible, on the basis of experience, to make a selection from among the various systems of principles. But we have still to face the above-mentioned objection of a logical circle . This objection may be removed as follows: If B follows from A, and non-A follows from A and B together, we may infer the falsity of A. Applied to our case this tells us that from a system of principles, A, there follows a certain interpretation of observed facts, B, which however, together with A, yields a law (non-A) that is in contradiction with A. From this it follows that the system A is false. It becomes clear, also, that, without becoming involved in a circle, it is possible

to reason from the interpretation of observations that result when certain principles are taken as foundational back to the *falsity* of these principles. The *validity* of these principles, of course, could not be inferred without circular reasoning. In all strictness such a conclusion is, in general, impossible. In other words, the validity of any system of principles may never be inferred with certainty from any mass of observations however large. From this, however, we may not conclude, as conventionalism does, that the principles are entirely independent of the facts; we may single out a certain system as the most probable, though always leaving open the possibility that new facts may expel it from this status.

The problem of space, or of geometry, has been studied with special thoroughness by the group of thinkers whom we are now considering. In addition to the above mentioned publications, we would refer especially to Carnap's *Der Raum.*[35] Carnap distinguishes three conceptions of space: "formal space," "intuitional space," and "physical space." Formal space is an abstract logical-mathematical structure. It is the proper object of pure geometry. Intuitional space is that in which we generally represent to ourselves geometric figures. Its relations and laws are known through *Wesensanschauung,* that is, through the intuition or immediate apprehension of essence. In opposition to Kant's doctrine Carnap holds that the intuition is that of only a limited spatial field. Assertions regarding space as a whole may not be derived from intuition; the latter, however, may be supplemented by freely selected postulates. Schlick, indeed, disputes the existence of such an intuition. He maintains that each of the senses has its own space, so that we have a visual space, a tactual space, et cetera. Carnap and Schlick are at one, however, in the view that the psychological facts of intuition tell us noth-

[35]Berlin, 1923.

ing of the structure of physical space. The most important part of Carnap's treatise is concerned with physical space. His exposition directly discusses the relation of geometry to experience and is perhaps the clearest and most exact account of this problem published in recent years.

If we designate as "the body of fact" all that may be derived directly from experience as regards the spatial relations of objects, then this body of fact must be differentiated from the interpretations of theoretical science. It is manifest that the body of fact can afford a characterization of only the topological features of physical space. All assertions on the other hand, as to whether lines are straight, surfaces plane and figures congruent depend upon postulates which are arbitrary in the sense that they are not univocally determined by the body of fact. If we select a specific mode of measurement, as, for example, the one customary in physics (according to which the two marks on the standard meter in Paris represent a distance equal to 100 cm. multiplied by a certain empirically determinable function of temperature, pressure, electrical charge, etc.) we derive a very specific metrical space whose structure, to be sure, still depends upon the degree of accuracy attainable at the time. Until 1919 the entire known body of physical facts, with the exception of the movements of the perihelion of Mercury, could without contradiction be put into terms of the Euclidean geometry. Even at that time an entirely different geometry might have been arrived at—for example, one in which the surface of the earth is a plane with a curvature everywhere positive and uniform. This, of course, would have demanded a different, and indeed a more complicated mode of measurement than the customary one. This same situation would make it possible, even today, after observations have confirmed the general theory of relativity, to preserve intact the strict validity of the Euclidean geometry, provided we assume that the length of a

rod depends not alone on temperature, pressure, etc., but also in a very determinate way upon its position in the gravitational field. If, on the other hand, we adhere to the mode of measurement hitherto customary, we find that space is no longer everywhere Euclidean but that it possesses a degree of curvature dependent upon the gravitational field.

Carnap comes to the following conclusion: The body of fact leaves us with a choice either between different modes of measurement or between different geometries. If we have come to a decision in one of these two regards, the outcome in the other follows of necessity. In the choice, the consideration of simplicity is authoritative. This, however, does not itself unambiguously determine the choice, for the principle of simplicity might be employed with respect to the mode of measurement as well as to the geometry, and it would lead to different results in the two cases. As a matter of fact, however, physics proceeds neither according to the one nor according to the other alternative, but it makes its choice in such a way that its development as a whole becomes the simplest possible. This, to be sure, carries with it the fact that neither the mode of measurement nor the type of geometry is completely determined at any stage.

Against this view an objection may be raised which we would here mention because it is of importance for the controversy between conventionalism and empiricism. Carnap always sets out, in his reflections, from a finished body of fact already lying at hand, and he investigates the possibility of expounding it theoretically. This, however, does not exhaust the task of theory. One of its most important functions—if not, indeed, its most important function—consists precisely in this, that it enables us to predict facts as yet unknown. But it is not at all certain that two theories which equally well present the known facts

are of equal value also for the prediction of unknown facts.

Reichenbach has investigated this problem of Carnap's from a somewhat different point of view. He defines as rigid (*Starr*) a solid body which is isolated from all external forces. This is a physical definition of a rigid body which makes no reference to any system of measurement. It then is a fact of experience (of course only approximately verifiable) that two rigid rods which at any one time, when both are at rest, cover each other, will do so always and everywhere. To be sure, the concept of "isolation" involves a still further difficulty. It is obvious that this isolation may never be strictly realized. But even to achieve it approximately, one condition must be fulfilled. If there are "metrical forces," that is such forces as on the one hand operate uniformly on all substances, and on the other hand penetrate undiminished all isolating walls, obviously it would be impossible to construct an isolated system. To render the definition of a rigid body univocal and applicable one must therefore postulate that there are no "metrical forces." Such a postulate may be made without contradiction of experience, if one makes no assertions regarding the metrical structure of the world. The Newtonian physics proceeds conversely. It regards metrics as given *a priori* by the Euclidean geometry, and accordingly it is compelled to introduce a "metrical force," namely, gravitation.

The above-given definition of rigidity, together with the exclusion of "metrical forces," is an axiomatization of the traditional mode of measurement. Now it appears that at the present stage of knowledge the geometry which one thus obtains is in complete harmony with that which follows if light signals exclusively are utilized for purposes of measurement. This is one of the most important results of Reichenbach's axiomatics of the relativistic doctrine of

space-time . This axiomatics, into the details of which we cannot here enter, has the aim of differentiating the empirical from the conventional elements of the space-time doctrine. The axioms formulate the empirical facts (of course, after a generalization on the basis of the previously mentioned principle of normal induction) which are affirmed by the theory of relativity; the postulates, on the other hand, are laid down in definitions. This excursus into the theory of science is of great value in that it enables us for the first time to form a clear-cut and definite judgment as to the degree of justification with which the theory of relativity may appeal to physical experience. It appears here, as so often, that, the moment a controversial question is really formulated with strictness, it is fairly simple to settle the controversy in as much as each of the contenders is partly in the right and none of them entirely so. The theory of relativity rests to some extent upon empirical principles which are in part well confirmed and in part as yet unconfirmed but in principle verifiable; in some degree, however, it likewise depends upon certain postulates which are neither true nor false but may be evaluated only with respect to their suitability. In a new work, presently to be published, Reichenbach has laid broad, philosophical foundations for the entire doctrine of space-time.

Philosophical viewpoints similar to those of Carnap and Reichenbach, are maintained by Weyl in his works, *Raum, Zeit und Materie,* and *Mathematische Analyse des Raumproblems.*[36] But the main emphases of his investigations are purely mathematical, and we must therefore here pass them by.

A further problem closely bound up with the development of modern physics is that of causality, or rather that complex of issues which group themselves about this con-

[36]The latter was published in Berlin in 1925.

cept.[37] Physicists and mathematicians above all have succeeded in their attempts to reach an exact formulation of the causal law. Weyl has expressed it as follows: The temporal derivations of the quantitative aspects of conditions[38] in one part of the world are mathematical functions of the quantitative aspects of the conditions themselves and of their spatial derivatives at that position." In less mathematical, and therefore less exact language, this affirms that the temporal changes in the quantitative aspects of conditions (for example, the intensity of electrical and magnetic fields) at any specific time and place are completely determined by the values of these quantitative aspects of conditions at that particular time and place and in their immediate environment. If one compares this with Kant's formulation: "Every change in nature has a cause upon which it follows according to a law," one realizes at once the progress that has been made in the precision of the definition. But it is precisely this more exact formulation which discloses the "law" to be a completely meaningless triviality. In the spirit of the "classical" physics ("classical" in contrast with the "quantum" physics) the further demand might perhaps be made that the functions remain continuous. But even then one might say that the principle remains insignificant in that no observable facts can be conceived which would contradict it . The reason why the principle does not ordinarily strike us as thoroughly trivial is indicated by Weyl when he points out that the functions which control the course of the process are extraordinarily

[37]The following works should here be cited: Schlick, *Naturphilosophische Betrachtungen über das Kausalprinzip,* Die Naturwisseuschaften, 1920, H. 20, and *Naturphilosophie* in *Die Philosophie in ihren Einzelgebieten,* edited by Max Dessoir, Berlin, 1926; Reichenbach, (in addition to the works already mentioned) *Kausalstruktur der Welt und der Unterschied von Vergangenheit und Zukunft,* Sitzungsberichte der bayerischen Akademie der Wissenschaften, Math. Naturw. Abt., 1925; Carnap, *Dreidimensionalität,* Annalen der Philosophie, Bd. 4, 1924; Weyl, *Philosophie der Mathematik und der Naturwissenschaft.*

[38]The term translated by this phrase is *Zustandsgrösze;* it might perhaps better be rendered "co-ordinates," except for the fact that to many this might tend to have an exclusively geometrical connotation. [Tr.]

simple; functions as simple as these we expect to find also in the future. But even with this modification nothing of importance can be inferred from the principle. Rather should we credit it with being a guiding maxim for investigation (and for everyday experience). As such, one would not be inclined to deny to it a certain *a priority*. But herein it would be very difficult to discover any *a priori knowledge*.

More important than this very insignificant principle is the order of events made possible by the causal relation. As is well known, the theory of relativity has disclosed the relativity of simultaneity. This, moreover, also brings a realization that the temporal succession of distant events is objectively indeterminate. Now, however, it has appeared that it is both possible and useful to define the temporal succession of distant events by reference to the causal relation. The causal relation reveals itself to be objectively knowable, independently of any system of reference. Thus it would be fitting to define simultaneity in such a way that in any system only such events could be called simultaneous between which no causal relation could exist. According to Kant, simultaneity is the schema of reciprocal activity, and temporal succession that of causality. The intuitive knowledge of the temporal order was thus supposed to furnish the criterion for the applicability of the categories. According to modern physics precisely the reverse obtains. The temporal order (of spatially distant events) is in itself arbitrary and is not determined by the data of observation. The causal connection of two events, on the other hand, can be known empirically, and this gives to the time order its arrangement.

The causal relation, furthermore, enables us also to determine the direction of the temporal sequence. For the cause-effect relation, as Reichenbach has shown, is not symmetrical. These investigations lead to a further interest-

ing problem, namely that of the difference between past and future and the definition of the "now." In his above mentioned treatise on the structure of causality, Reichenbach shows that if we accept the hypothesis of determination, past and future are not objectively distinguishable. The hypothesis of determination affirms that the quantitative aspect of conditions in any moment of time, together with their derivatives, determine the course of these magnitudes for all moments of time. It appears, however, that this hypothesis asserts more than may be justified through our experiences of the physical order. In its stead, one may make the assumption that the connection between the events is one of probability. If we adopt this supposition, which in any case is not in contradiction with any experiences derived from the physical order, we obtain a characteristic difference between past and future. Objectively, the former is determined, even though we know only a brief section of it; the future, on the other hand, is indeterminate, not only subjectively, because of our lack of knowledge, but also objectively, because it is determined by the present only with probability. The present is defined as the boundary between the determined and the indeterminate. But we must refrain from a further discussion of the interesting questions raised by these investigations.

Of the other problems in the philosophy of nature to which modern physics has given an entirely different form we would refer only to the problem of matter, or of substance. The literature relating to it is comprehensive. From it I single out only the following important items: Schlick's paper, already mentioned, on *Naturphilosophie;* Weyl's essay in the *Handbuch der Philosophie* to which we have also already referred, and his small but important book, *Was ist Materie.*[39] Even though the problem of matter is just at the present time in rapid flux and the most re-

[39] Berlin, 1924.

cent developments of "quantum mechanics" open up entirely new outlooks, one may nevertheless regard it as established that the old metaphysical concept of substance has no place in the natural science of today. The fact that we may trace the life history of the "things," including the living beings, of our environment and find it to be an approximately continuous course is indeed the reason why we conceive a "thing" as an essence persisting throughout a change of conditions. But when we descend into the world of atoms and electrons, this permanence and continuity reveal themselves as merely statistical. We indeed have an almost insuperable tendency to represent also the ultimate constituents of things as enduring, but in this physics in no wise justifies us. The wonderfully intuitable model of the atom constructed by Rutherford and Niels Bohr is today recognized as inadequate. In this model the electrons revolve, similarly to small planets, about the nucleus as the central sun, but this representation involves features to which nothing which we experience of the physical order corresponds. The individual electrons indeed have orbits with spatial and temporal features, physically real, but it appears impossible to ascribe to the individual electron a determinate place in its course at a determinate time. What is true of permanence is true also of the "space-filling" nature which earlier views ascribed to matter. Upon closer examination this also vanishes. Thus it seems necessary to abandon the "substance theory" of matter. Up to the present time, however, it has been impossible to develop without contradictions either of the two other views competing with it: the "dynamic" and the "field" theory. According to Weyl, a mediating doctrine is today the most probable, that is, the "agent" theory, according to which matter is an extensionless agency which arouses or stimulates the extended field. But this entire question, as al-

ready stated, is as yet altogether too much in flux to permit of any final assertions.

There are quite a number of other important philosophical issues and researches which are more or less closely connected with the development of the exact sciences. I would call attention only to the problems connected with the concept of probability, and to those bearing on the delimitation of strictly valid laws of nature from merely statistical laws. Unfortunately I must renounce a discussion of these matters. It has been my purpose to characterize that recent philosophical work in Germany which developed in close relations with mathematics and physics. Completeness could not be achieved within the space limits at our disposal, but I trust that I have clearly indicated the characteristic traits of this work and have given my readers an idea of how fruitful the results of a close co-operation with the exact sciences may be to philosophy.

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CONTEMPORARY GERMAN PSYCHOLOGY[1]

MORE than any other single science psychology may be described as the daughter of philosophy. In terms of the objective data studied, psychology is very closely allied with logic, epistemology, aesthetics and ethics; its crucial task, the question of the relation of mind and body, is at the same time the central problem of metaphysics. We can therefore understand why psychology has freed itself only lately from the mother discipline of philosophy. This close affiliation expresses itself today in the fact that as a rule both disciplines are still united in the personalities of their representatives. The tendency toward emancipation, on the other hand, is unmistakably strong. If possible psychology wishes to enjoy the same relationship to philosophy in which its older sister sciences stand. Then too its subject matter has for a long time accumulated to such an extent that it can rightly set forth its claim to be recognized as an independent science. The directions in which it has developed are indeed quite manifold. These directions, furthermore, could not be at all unitary, because diverse lines of inquiry have pursued different objectives.

A comprehensive exposition of "Contemporary Psychology" (*Psychologie der Gegenwart*) written in a vital and appealing style, even if it does not evaluate all branches of psychology with uniform justice, appeared in 1925 from the pen of H. Henning. But for the purposes of our report, its principle of classification is not serviceable. We prefer to make a survey of the main currents of modern

[1] Translated from the German by C. A. Ruckmick.

psychology in German-speaking regions by foregoing for the moment an attempt at systematic classification and adopting four divisions which permit of easy separation on the basis of their fundamental attitudes and their lines of activity: (1) experimental psychology and its applications, (2) so-called *Gestalt* psychology, (3) intuitive[2] psychology and the investigation of personality, (4) psychology of the unconscious, specific psychoanalysis and individual psychology. As an appendix short discussions will be devoted to comparative psychology and to the theoretical metaphysical psychology. In developing each division and its literature, the report must confine itself to sketching the thought processes of a few but, so far as possible, typical representatives in the separate spheres and directions of activity and to mentioning a number of characteristic publications.

1. *Experimental Psychology and its Application*

Particularly through its transition to experimentation, psychology seems to have justly achieved its freedom as an independent science. At the same time a characteristic of its progress is to be noted in the fact that G. Fechner, the founder of experimental psychology, set out in this direction from metaphysical lines of reasoning. The experimental procedure is closely allied to the analytical methods of the natural sciences. The elements of the mental life are sought for and investigated. This attitude and the experimental procedure itself were directed first of all to the investigation of sensory experiences, a phase of research that is still today in full swing. At the same time a certain characteristic turn has manifested itself in the development of

[2] Translator's note: A literal translation would require the active participial adjective, "understanding" (*verstehende*). But since this is ambiguous, I have preferred "intuitive" as the nearest approach, although this term is also equivocal. Further explication must be postponed until the matter is more fully discussed in a separate section. A. A. Roback (*The Psychology of Character*, 1927, pp. 331-337) uses "intuitive", "interpretative," and "understanding," quite interchangeably in referring to this school.

this direction of investigation. The older sensory psychology was more bent on the study of the conditions of stimulation and of the interdependence of stimulus, sense-organ, and sensation; in short, it moved in the direction of physiology. The law of specific sense-energies and the Weber-Fechner law were its points of crystallization. The more recent turn that the psychology of sensation has taken is more toward the purely psychological inquiry into the characteristics of sensation. But the field of activity first mentioned is by no means to be considered as relinquished.

On account of the limitations of space it does not seem feasible to give an abstract of the separate researches that have appeared in the psychology of sensation and perception. A survey will furnish at least an orientation in connection with a bifurcation that has already taken place in this field of activity.

Of the more physiologically biased type of investigation we will mention studies of the so-called lower senses, which in more recent times have attracted keen interest.

First of all we must consider the work of the M. von Frey school (Würzburg) on the kinaesthetic and cutaneous senses. The Weber-Fechner law was the point of departure of a series of studies by R. Paul (Munich) who drew up as a corollary of that law an analogous psychical regularity, a principle of relativity, in terms of which the subjective magnitude, the psychical activity, depends upon the objectively independent variables in such a way, that it increases at first rapidly, then ever more slowly, and finally approaches a liminal value. A long series of publications is devoted to a qualitative investigation of various sensory fields. A very recent volume (1926) of the *New Psychological Studies* published by F. Krueger and A. Kirschmann, psychologists at Leipzig, is concerned with the problem of "Light and Color." This comprehensive joint volume brings together studies on the threshold, on color-sensitiv-

ity, on the construction of the color-pyramid, and on the so-called reversed spectrum (caused by a small opaque body which serves to replace the refraction that occurs in connection with a refracting prism, and by means of which the complementary colors appear instead of the colors of the usual spectrum). The volume clearly shows how much fundamental work is still to be done in the systematic organization of qualities and in the investigation of optical phenomena from the psychological standpoint. In the first part of the *Handbook of Psychology* (1922) K. Bühler treats the manner of appearance of the colors and submits his work as a project in the optics of painting. Under a similar title, *Concerning the Manner of Appearances of the Colors and their Modification through Individual Experience,* a work by D. Katz had already appeared in 1911 as Monog. Supp. No. 7 of the *Zeits. f. Psychol.* The same author had published as Monog. Supp. No. 11, of the same periodical (1925) a fundamental investigation called, *The Structure of the World of Touch,* which is methodologically related, in part, to the first mentioned study. Finally, further studies have come from this author in an attempt to prove, contrary to v. Frey, that the sense of vibration is an independent sense. C. Stumpf, who reported at the Sixth Congress of Experimental Psychology in 1914 on *Recent Investigations concerning Tonal Theory,* (a subject which has been developed almost to the point of an independent discipline) has continued his researches, since his investigations of the structure of vowels (1918) and the pitch of consonants (1921), and has just now published (1926) a comprehensive work entitled *Speech Sounds; Experimental-phonetic Investigations.* Stumpf's results support the Helmholtzian theory of vowels. Independently of Stumpf, this same problem has been investigated also in American laboratories where these results have for the most part been confirmed.

H. Henning has published a comprehensive book entitled

Smell (1924)[3] which serves as a "reference work in the field of psychology, physiology, zoology, botany, chemistry, physics, neurology, ethnology, philology, literature, aesthetics, and cultural history." Studies concerning the gustatory sense appeared from the same psychologist in 1921 and 1922.

Considerable attention has been directed to the "eidetic" phenomena which E. R. Jaensch (Marburg) and his followers have investigated in a pioneering way.[4] Eidetics are people whose ideas can be transposed into literally visual aspects, as Jaensch stated in his address before the Munich Psychological Congress in 1925. In a certain sense the "aspect-images" of eidetics stand midway between ideational images and (sensory) after-images. On account of their peculiar nature eidetics appear to be particularly suited for investigation of objective and pictorial thinking. Among adults eidetic phenomena appear more rarely and less distinctly, but even among the youthful, the frequency of their occurrence is apparently regional, varying with local conditions. According to the nature of the aspect-images, with respect to their modifiability or constancy, the eidetics fall into two groups, which are also distinguishable typically, on the basis of their constitution. According to the clinical picture of which they remind us, they have become designated as type B (basedovoid)[5] and type T (tetanoid). Type B is determined mostly through mental vivacity accompanied by shining eyes and lively complexion, whereas type T is more reserved, as indeed its outward manifestations would also indicate. The classification can be made also along other lines in accordance with the nature and content of the primary images which precede the eidetic aspect-images, for eidetics do not respond

[3] Translator's note: The first edition appeared in 1917.

[4] E. R. Jaensch, *Concerning the Development of the Perceptual World and Its Structure in the Years of Youth*, 1923; O. Kroh, *Concerning Subjective Aspect Images among the Youthful*, 1922.

[5] Translator's note: Cases of ophthalmic goitre are our nearest equivalents.

in the same manner to all objects presented to them. Jaensch surmised that these phenomena involve older functional levels which are, nevertheless, still effective among average individuals. At one stage below this lies the pre-aspective layer, which can be observed in the so-called synaesthetic group. The synaesthetics, who are closely allied to the eidetics, but who can nevertheless be distinguished from them, experience colors more or less intensively with stimulation of tonal sensations (audition colorée). But a certain coördination of tones and colors appears also to be the rule among those who are not peculiarly characterized by synaesthesia. Eidetic phenomena would naturally be effective in explaining reports of religious hallucinations. Eidetic and synaesthetic phenomena, which are also found in other sense-departments, are of course not only psychologically interesting, but are to be studied also for their pedagogical importance. On experimental grounds, therefore, the possibility of a classification into types has emerged, a classification which could be combined with other attempts to distinguish types, about which we shall speak in detail later.

Interest has been manifested more and more strongly in the direction of the higher, so to say, the peculiarly psychical functions. Thus there has developed especially an experimental psychology of thought.[6]

The classical association psychology, whose outstanding contemporary representative is perhaps Th. Ziehen, had reduced thought activity, as well as all psychical processes, to associative reproduction. The memorial traces of simultaneous conscious processes are bound together and the reinstatement of one content revives those processes that are connected with it. Thus, finally, there emerge from each idea very many reproductive tendencies, and a system

[6] Foremost here are to be mentioned the extensive studies of Otto Selz, *Concerning the Laws of Consistent Thought Processes* (1913) and its comprehensive supplementary, *On the Psychology of Productive Thought and Error* (1922), of which Selz himself gives a short summary in *The Laws of Productive and Reproductive Mental Activity* (1924).

of diffuse reproduction, Selz says, develops in which the strongest reproductive tendency in any given case inhibits the others and thereby determines the flow of ideas. But correctness and strength in the association of an idea do not have anything to do with each other. It can therefore be assumed that the reproductive tendencies strengthen one another when they point in the same direction. This is the fundamental concept of the "constellation theory" of consistent thought processes as G. E. Müller interprets it. A thought-problem, for example, fashions a favorable constellation for its solution. It serves as a guide, since the nature of the task [*Aufgabe*] itself already arranges a series of memorial traces in increasing readiness, from which, through the peculiarity of the concrete content of the task, the corresponding contents are selected. But it can be shown that this hypothesis does not suffice to explain the actual procedure of thought. This procedure is conditioned by *determining tendencies,* as N. Ach has called them, which we can take to be primarily a collective term for all guiding factors. Along with this development, in which the associative explanation of the thought process tends to make the assumption of determining tendencies, goes side by side the development of the notion that thoughts are concerned with specific psychic contents which are not to be conceived as sums of ideas.

As a point of departure, O. Selz makes an hypothesis that is diametrically opposed to that of a system of diffuse reproductions among which a choice must be made. In place of such a system, he presents one of specific reactions in which a given single stimulus is constantly attached to a single reaction, like a reflex response to a stimulus, so that one can speak of a reflexoidal (reflex-like) arrangement. The proposed task corresponds to a stimulus, while the specific reaction which alone or together with others solves the task, is called the operation or method of solving. Every

solution is accomplished through a chain of methods of solving. The method of solving may be intelligent or unintelligent, depending upon whether or not the thinking individual, in its application, realizes that the operation is a means to the solution. For example, we have the knowledge complex $R_1 \, r \, R_2$, *i. e.*, two *related objects*[7], *e. g.*, "hunting" and "fishing" stand in a relationship r (coordination). If I should search for a concept coördinate with "hunting," then the consciousness of the task is represented by the schema $R_1 \, r \, X$, which Selz calls the anticipatory schema. The task is solved through the operation of complementing the complex, which results in this case reproductively. The experience of launching a consciously intended intellectual operation, according to Selz, is always a schematic anticipation of the goal, even in the case of other intellectual operations, such as abstraction and combination. Furthermore, through the realization of methods of solving, it should be possible to explain also those productive mental performances that are undoubtedly necessary to the establishment of scientific systems, to technical construction, and to artistic composition. Selz distinguishes the following principal instances which the reviewer wishes to illustrate by mathematical examples:[8] (1) Routine realizations, out of original elaborations arise methods of solution: a method of solving is reproduced and applied to new material. A student, for example, knows the method of solving quadratic equations and uses them in connection with a given case or applies them as a partial method, *e. g.*, for the solution also of the equations in the text of the next higher degree of difficulty. (2) Intermediate abstraction: a method of solving must first be discovered, it emerges from a total situation, is abstracted from it either (a) reproductively,—

[7] Translator's note: "object" in the sense of Meinong's *Gegenstandstheorie*.

[8] The *Os* in Selz's experiment received problems as, for example, to find the super—, sub—, or co-ordinate concept to a given one, the part for the whole, and the whole for the part.

a process suggests itself that offers a partial solution—in the case of the equation, $5x^3+15x^2+15x=1710$ we recall for example the method of completing the square by means of which a mixed quadratic equation becomes a pure quadratic equation; we proceed then as if it were a quadratic equation and obtain $x^3+3x^2+3x+1=342+1$, $(x+1)^3$ or $x=6$; (b) conditioned by chance,—Darwin found the struggle of mankind for existence described in Malthus; he abstracted the method for use in biology; or the student of mathematics learns incidentally that $x^4+x^2=a$ may be solved by substituting $y=x^2$—he then can also solve $\sin x+\sqrt{\sin x}=a$; (c) immediately,—the method of solving follows from the structure of the task itself, *e. g.*, $\sqrt[4]{625}=\sqrt{\sqrt{625}}$. (3) Voluntary or involuntary processes of abstraction initiated without the setting up of a goal are subsequently elaborated constructively, *e. g.*, a fortunate experience while writing poetry, or a chance observation in science.

Selz is led by his investigation to a position opposed to that of Bergson, for whom interminably new phenomena arise in a manner inexplicable by scientific law. Selz's work shows how precisely these constant, uniform coördinations of mental operations and the recurrence of the factors of solving form the prerequisites for the arousal of new operations and productions. In these terms an outlook is afforded toward a "biology from within," by means of which the development of new types of reaction is explained in terms of old ones.

In the field of the psychology of thought other studies may be mentioned, though limited space forbids more detailed accounts: the quite comprehensive investigations of the school of N. Ach concerning naming, abstraction, and the building of concepts; the investigation of Willwoll, in which the observer was given two concepts and was asked to form one that is superordinate to them, a concept that

could not be easily reproduced, *e. g.,* the concept superordinate to "steps" and "ladder"; finally the researches of Lindworsky and Störring on the forming of conclusions in thinking.

In the field of the psychology of feeling are to be mentioned G. Störring's *Psychology of the Human Affective Life* (1916); in the field of the psychology of volition, J. Lindworsky's *The Will, Its Appearance and Control in Accordance with the Results of Experimental Psychology* (1919).

Naturally psychology has not confined itself even in Germany to the establishment of general uniform principles, but it has also concerned itself with the discernment of characteristic individual differences. As in the fields of sensation and perception, there appear specific differences also in the spheres of memory, ideas, attention, reaction, and the thought processes, and all these individual peculiarities are adapted to serve as foundation-stones for a differential psychology (W. Stern, *Differential Psychology,* 1921)[9] and as an application in time to psychotechnics.

Pedagogy, medicine, the science of law, and industrial science represent enlarged fields of application of psychology, especially of experimental psychology. Since 1914 applied psychology has been very energetically developed in Germany. In industrial psychology there press forward the complex questions concerning the rationalization of the work-process, the testing of special ability, and vocational guidance, all of which involve a long series of investigations. The problem of rationalizing salesmanship, the "psychotechnics of advertising," has likewise been brought

[9] Translator's note: The first edition of this work appeared in 1900 under the title *Concerning the Psychology of Individual Differences.* In place of a second edition, a totally rewritten and much larger work was published in 1911 under the present title.

within the scope of research.[10] Even if the rather too great hopes which were directed toward psychotechnics have not all been fulfilled and a certain rebound of disillusionment must be faced, nevertheless psychotechnics has already proved its justification within natural limits and has been assured the recognition of industry.

We close this review of experimental psychology and its application with the citation of several general text-books and collective works: Abderhalden's, *Manual of Biological Methods of Research;* J. Fröbes's two-volume *Text-book of Experimental Psychology* (1920 and 1923)[11] and R. Pauli, *Psychological Manual* (1923).

2. *Gestalt Psychology*

In the organic development of experimental psychology the tendency had already emerged to abandon the closed systems which the association psychology portrayed, and to comprehend the mental structures in their specific peculiarity and totality rather than to destroy them through an extensive ramification. And yet this development did not satisfy many psychologists. With the revolutionary claim to the production of a "new" psychology, the so-called *Gestaltpsychologie* appeared on the stage. As its chief representatives may be named W. Köhler, M. Wertheimer, and K. Koffka[12]. The psychology of *Gestalt*, influenced as it was from the direction of behaviorism and the psychology of intuition, raised against conventional psychology the charge

[10] Among the works in the field of applied psychology are to be cited, H. Münsterberg, *Fundamentals of Psychotechnic*, edited by H. Henning (1920); F. Giese, *Psychotechnic Manual* (1923), and *Manual of Psychotechnic Aptitude Tests* (1925); W. Moede, *Experimental Psychology in the Service of Industrial Life* (1923).

[11] Translator's note: The third edition appeared in 1926.

[12] Köhler, *The Physical Forms at Rest and in a Stationary Condition* (1920); Wertheimer, *Three Essays concerning the Psychology of Gestalt* (1925); Koffka, *Psychology* in M. Dessoir's collective work, *Philosophy in its Separate Fields* (1925).

that analysis into elements is an unsuitable method of research for psychology. Its accusations were primarily pointed, it is true, toward association psychology, which might anyway be considered as exploded, but they also affect every type of psychology which does not fundamentally break relations with the principle of dissection. The actual mental structures are entities, they are "forms." Even in perception more is given us than a sum of sensations. The perceptual experiences, moreover, are mental entities. Geometric figures, geometric-optical illusions, and melodies are especially characteristic examples of perceptual *Gestalten* [or "forms"].[13] Their characteristics are not only the narrower interrelationship of their parts as over against the environment, but they are altogether more than the sum of their parts and are not to be built up out of single elements. They show their character as entities also through the possibility of their transposition: the single tones of a melody may be replaced in part with suitable other notes or an entirely new set may be introduced, without disturbing the melody. So objects may depict themselves on our retina in the most varied perspective positions without losing their unitary character. Experiments with animals have shown that for these animals also it matters not what the absolute colors are, but what the "color-formation" is. When chickens, for example, had been trained to look for their food on the darker of two surfaces, when the darker surface was retained, but the lighter one was replaced by one that was still darker, somewhat in the direction of black, they went not in the direction of the one which remained absolutely the same, but in the direction of the relatively darker, that is the black. Similar observations could also be made with children. In short, our entire world

[13] Translator's note: *Gestalt* has been variously translated, more frequently as "form," less frequently as "shape," "figure," "configuration." Köhler himself prefers "form." The terms "*Gestalt*" and "form," will therefore be used interchangeably in what follows.

of perception is normally built upon *Gestalten,* not on "and-combinations." Such "and-combinations," mere sums (*e. g.,* the perception of a pair of lines as two separated lines) are products of abstraction. The sensations themselves, which experimental psychology regards as elements, are artificial abstractions. The fundamental thing is the perception, which is concerned with "forms." Where no "form" can develop itself, there arises the impression of a chaos.

All of these emphatically intoned thoughts are certainly very worthy of consideration. They are at any rate not entirely new; furthermore, the building of "forms" naturally has long been an object of attention among psychologists. In his *Introduction to Psychology* Wundt had already advanced as the first psychological law, "the creative resultant," according to which it is the inherent nature of the combined contents of consciousness that their peculiarity is not created from a sum of the parts out of which they combine themselves. In 1890 C. von Ehrenfels had already coined the name, "form-qualities" (*Gestaltqualitäten*). The Austrian school (Meinong, Witasek, Benussi, etc.) had spoken of "funded contents" which arise through a mental construction of elements. In 1913, in his book, *The Perceptions of Form,* Bühler had discussed the question of the development of "form." G. E. Müller has recently investigated the conditions for the formation of complexes[14] and has directed a thorough-going critique against the Köhler - Wertheimer - Koffka theory of *Gestalt.* The difference between the more recent and the earlier views of mental formations lies in the fact that, according to the more recent interpretation, the primary concern is not the elements, from which, through a creative act of the mind, the *Gestalt,* which is more than a sum, is thought to arise; the *Gestalt* rather is the primary unit, while its parts

[14] *The Theory of Complexes and the Theory of Gestalt,* 1923.

are products of abstraction. The envisagement is therefore not from below upward, but from above downward.

Just as the association psychology sought to produce a physiological hypothesis, in which the associations were traced back to circuits in the central nervous system which had formed themselves between simultaneously arising elementary impressions, so the psychology of *Gestalt* looked for a physiological hypothesis corresponding to its demand. The mental forms must correlate with physical forms of the nervous system. W. Köhler called attention to the fact that inorganic nature likewise exhibits phenomena which could be called "forms." Thus, for example, the distribution of electricity in a conductor fulfills the requirements of *Gestalt*. It is not to be understood as a sum of single charges, but the distribution of charges is dependent upon the total surface of the conductor. Subtraction or addition of charges does not alter any part of the distribution. *Gestalt* is therefore capable of transposition. Physicochemical "forms" of such a nature as run their course in the nervous system, among which each partial process is conditioned by the whole, are thought to represent the physical correlate to the mental *Gestalt*. Wertheimer has furnished us with an especially concrete expression of this idea through his introduction of so-called cross-functions. A specific unit results from the stimulation of individual cells and the cross-processes that run their course between the excited areas of the brain.

Gestalt psychology finally encompasses as "forms" all psychic processes. Especially, for example, are the reflexes and instincts "forms" which are to be traced back to the physical "forms" of the nervous system. In the visual sense modality, the sensorium and the motorium would build a unity that would initiate itself on the basis of the simplest conditions. Thus are explained the reflex eye-movements which are observed so early in

life. Instincts are not regarded as chain-reflexes, but contrariwise reflexes are "frozen" instincts. The situation, in which an instinct is operative, is designated as an open *Gestalt,*—the instinct concerns itself with the task of closing this *Gestalt.* In principle the concept of *Gestalt* and the explanation of instincts built up around it are expanded also to include thinking. A problem presents an open *Gestalt* of thought, which yearns for solution (closure). The thought process does not come to rest until the situation is transformed into a closed *Gestalt.* This transforming or translation of thinking, which as a matter of fact is very important, and which Wertheimer has illustrated with interesting examples, recalls the creation of an anticipatory subject in the theory advanced by Selz. The solving follows often when an object, which before this played its own rôle, changes its significance in such a manner that it becomes adapted to close the open *Gestalt* which the situation presents. Productive thinking is in this manner exactly suited to the task, in that the situation must first be transformed into an open *Gestalt,* that such a "form" must first be found.

A number of criticisms have rightly been raised against the psychology of *Gestalt.* The most effective are perhaps the following. The physiological hypothesis is a variety of materialism. It is as little in a position to explain the sensory mental process as the outlawed atomistic physiological hypothesis. What Köhler calls *Gestalten* are fundamentally only conditions that are equalized in effect. These conditions are not more reasonable than were the elementary processes. They also are really not more than their sum, at least if one uses the term "sum" not only in the spatial, but also in the dynamic sense. It may well be that such equivalent conditions play a large part in neural reactions; perhaps, also, they are at the foundation of the perceptual "forms." These separate points are still to be

proved. Undoubtedly the grave difficulties which the theory faces, and which especially E. Becher has revealed, must not be misinterpreted. An explanation of those psychical processes, however, which we designate as meaningful, especially thinking, is not afforded by means of this hypothesis.

A second criticism is that the concept of *Gestalt* becomes much too broad, so that it grows vague and confused. Every psychic process is called a *Gestalt*. But what Koffka calls "thought-forms" is surely something essentially and altogether different from the perceptual "forms." It is certainly very useful to regard the thought processes as wholes, but on closer acquaintance nothing emerges that is of more fundamental importance than what the traditional, in particular the thought psychology—as for example the writings of Selz and Bühler—has brought to light. Everything only appears in a new dress.

Basically the entire personality may be called a *Gestalt*, an entity, but when we undertake an investigation of mental contents and processes, we must certainly ever again (somehow) select entities, and where the cross section shall be made depends essentially upon where the psychologist wishes to cut. The psychology of *Gestalt* desires also to become affiliated with behaviorism and with the doctrine of emotion advanced by McDougall. The behaviorism in the doctrine of Thorndike and McDougall's theory of instincts have of course not been neglected in German psychology. Thus, in the Psychological Congress at Munich in 1925, these tendencies in American psychology were introduced through a summary read by Karl Bühler. But then these theories have merely been followed with interest rather than having become absorbed. The psychology of *Gestalt* is in that respect an exception to this situation, inasmuch as it tries to embody particularly the doctrine of instincts and emotions in its system. The situation which makes instincts

operative Koffka calls an open *Gestalt*. The closure entails the formation of a physical *Gestalt* in the central nervous system. The *Aufgabe* is the detection of essential and fundamental instinctive "forms." The relation between the psychology of *Gestalt* and behaviorism appears to the reviewer to a certain extent to be artificially drawn, but the tendency to get close to everyday life and to observe organisms as wholes is in either case common to both points of view.

3. *Intuitive Psychology and Investigation of Personality*

The requirements of everyday life, which are effective everywhere in modern psychology, are not satisfied, to be sure, with the psychology of *Gestalt*. So-called *intuitive psychology* places itself in a still more fundamental contrast to traditional psychology than did the psychology of *Gestalt*. The charge that it brings is two-fold. (1) The traditional experimental psychology is a psychology of elements, instead of an envisagement of its objectivity in a developing and perfect mental life. (2) It would explain mental events in a causal connection after the manner of the natural sciences instead of permitting them to be understood. The intuitive psychology therefore has in common with the psychology of *Gestalt* the aversion for the mechanical and atomizing point of view which traditional psychology presents. But it is not true, as Koffka thinks, that the psychology of "form" in a certain measure builds a bridge between "explanatory" psychology which is directed toward the natural sciences and "intuitive" psychology which is orientated toward the humanistic sciences. From the standpoint of intuitive psychology, undoubtedly traditional experimental psychology and the psychology of *Gestalt* rather belong together. What intuitive psychology offers is another type of comprehension. W. Dilthey, to whom intuitive psychology traces its origin, has formulated the

contrast as follows: "We explain [the life of] nature, we understand the life of mind." Since then the representatives of intuitive psychology have not become weary of discussing this contrast. Thus H. Erismann has designated as unintelligible all knowledge in general that has been inductively obtained, in terms of the uniform operation of causal laws. Explanation in the natural sciences, according to him, consists in organizing an inductively obtained event which proceeds unintelligibly according to law. Every research involving a further analysis points only to other not less unintelligible laws. The situation is different in the mental realm where the relations are intelligible from within outward (*The Peculiarity of the Mental,* 1924). But the concept of "intuition" is manifold in meaning. A very thoughtful explanation has been achieved in a book, *The Problem of Psychological Understanding,* by G. Roffenstein (Vienna, 1926).

K. Jaspers distinguishes static and genetic intuition. The first is a self-realized mental state; genetic intuition inquires how mental processes develop out of mental processes. The demand for a static understanding faces that point of view which one tries to designate as the phenomenological method. Phenomenology demands of every conceptual elaboration of phenomena that it should envisage itself, that it should possess itself of the quality of experience, that it should set itself into the circumstances of the observation, and that it should comprehend its essence in terms of natural appearances. If this point of view is applied to mental contents, then the conditions for a psychologically static understanding are established. Detailed presentations, as that given for example by M. Scheler of the feeling of sympathy, owe their existence to such an attitude. Love in its manifold forms and meanings, sympathy together with joy and sorrow, are subclassified in accordance with their intrinsic nature. In the class of phenomenological interpre-

tations belong, in addition to the works of Scheler, those of A. Pfänder, P. Haeberlin, and others. We can not here discuss in detail the differences in the points of view nor their justification ([in terms of] empathy, re-living, intuition).

To understand the mental life genetically does not imply an understanding of the underlying organic motivation. If intuitive psychology has a fundamental category it is that of purpose. (Anna Tumarkin, *Prolegomena to a Scientific Psychology,* Berne, 1923).

An especially important task in the realm of intuitive psychology is naturally that of comprehending and describing the peculiar nature of personality as a unit. Even W. Stern, who does not really belong to the movement known as intuitive psychology, writes in his *Differential Psychology*: "Personalities, in so far as they are entities and also present mental wholes, can be understood only through re-living them." Differential psychology can only deliver building-stones.

The representatives of that type of psychology which is directed toward an understanding of personality labor, to be sure, above all with the not-univocal term, "concept of structure." All mental impulses and strivings together build a framework, in which one factor depends upon another, and these essentially uniform, ever-changing, dependent relations make up the structure of personality. Therefore only through re-living, empathy, and intuition is it possible to understand this framework in terms of its nature and meaning, to indicate its interdependence, and to follow the coöperation of characteristically individual experiences and performances of personality. It serves to show how the mental life of a personality and its expressions can be understood from the point of view of structure. The inquiry concerns the lawful uniformity of the structure, not the single causal laws. Several factors must

be analyzed out as being influential regarding structure, with the result that personalities will be classified into types in accordance with the similarities in the factors governing the structure. Thus intuitive psychology becomes the psychology of types. The representatives of intuitive psychology as a rule come from the humanistic scientific disciplines; they are orientated toward inquiries into the philosophy of culture and of values. The points of view regarding the formation of types are manifold. The foremost follows the division of personalities according to the attitude assumed in their views of life and according to their systems of values.

E. Spranger of Berlin is the most famous representative of intuitive psychology today. In his *The Forms of Life* he proceeds from his basic premise that the structure of a personality is given in terms of the predominating evaluative tendencies. He finds the main evaluative tendencies objectively operative in the six great spheres of culture: in science, art, religion, industry, the state, and society. To these six spheres of culture, corresponding to the systems of value which are respectively grounded in them, he allies six types of personality that are governed through interest in these spheres: science, theoretical persons; art, aesthetic persons; religion, religious persons; industry, economic persons; society, social persons; and the state, political men or rulers. From the preponderance of one evaluative tendency results a characteristic dependence of the others. A pure politician, for example, has no longer any peculiar mechanism for the objectivity which science demands. His theoretical training is therefore that of the rhetorician who wishes to convince through speech. In the artistic sphere he will lean toward an art that has power to impress you. The possession of this ability is for him material for might. God for him is a ruler. In so far as social acts in social relationships tend toward super- or

sub-ordination, he leans toward a patriarchal conception. Naturally not all men can be classified under one of the six rubrics. There are mixed types, to which Spranger assigns the modern technical individual in whom the theoretical and economic evaluative tendencies fuse. But there are also duplex forms in which several structures are wrestling for leadership, often at the expense of the harmony of the personality and its performance, often with the unavoidable result of a dangerous conflict.

Spranger's book, *The Psychology of Youth,* has made a strong impression, especially in pedagogical circles. Spranger here describes in a series of essays the method of classifying juveniles in terms of the problems which particularly concern them (politics, social intercourse, love, sexuality, —among youthful persons love and sexuality are not yet fused, but are separate spheres of experience in their consciousness) and presents the characteristic features of a number of juvenile types.

From a point of view different from that of Spranger, Jaspers develops a classification of types (*The Psychology of Philosophies,* 1925). As Dilthey had made the philosophical attitude (naturalistic, idealistic, contemplative interpretations of the world and of life) a basis for the characterization of personality; as Spranger, the system of values, so in the case of Jaspers the points of view of philosophizing and of evaluating become fused by means of the strong influence of historical necessity. In his survey, *On the Personality-types and the Method of their Determination* (1924), O. Felz designates as the most important principle of demarcation underlying the psychology of Jaspers, the constancy or instability of those evaluating tendencies which afford the conduct of life a firm guide. If the fundamentals of traditionally bound men are shattered through reflection and scepticism, there results the type of unprincipled, nihilistic, chaotic person. But life demands new bond-

age. The "demoniacal"[15] person who can keep in touch with the tendencies toward historical development but at the same time has discovered new evaluations and is inspired by them, secures for himself and for others a new fulcrum. He makes the transition to new crystallizations in conventional forms. The consistent rigorist who is grounded in firmly established principles follows him. Thus there is developed a tripartite division: consistent, chaotic, and demoniacal persons. As in the case of Spranger, the division into types by Jasper bears also the character of metaphysics and the philosophy of culture. While Spranger's classification is obtained in a measure by means of a cross section through the principal spheres of culture, the Jasper division suggests a longitudinal section. Today our youths stand in the magnetic field of attraction of both poles: the longing for traditional bondage, on the one hand, and for newer evaluations, on the other. K. Jaspers has also published a work, *General Psychopathology* (1923). Finally, the point of view of intuitive psychology has also been brought to bear on the fields of historical science and of sociology.[16]

Against intuitive psychology the charge is immediately brought that it delivers us no really teachable system. It is more an art than a science. Two further suggestions are added: (a) The meshes of the typification are altogether too large. If we look out upon the world, we are relatively seldom in a position, except in the case of striking personalities, to designate with any certainty the conformity of an individual to a given type. The majority does not lend itself without constraint to the classification. (b) To this charge must be added that the point of view of classifying

[15] *Translator's note*: This term in our language usually signifies a "demon" in a malicious sense. Originally, of course, as in the use of "daimōn" by Socrates it denoted divine inspiration. In the German, the meaning is allied to this and means "endowed with genius."

[16] G. Simmel, *Concerning the Nature of Historical Interpretation* (1918) and *Problems of the Philosophy of History* (1923); M. Weber, *Concerning Several Categories of Intuitive Sociology*, Book IV.

into types does not belong in the first instance to psychology, but to the sphere of the philosophy of culture and of metaphysics. These ideas are justified in the humanistic science of characterology, into which the psychology of types finally emerges through greater ramification of the guiding lines which envelop the structure of a personality. Very valuable in this direction is certainly the *Characterology* (1925) by Utitz, in which a great array of characterological guiding lines are set up, of which the scarcity of space does not permit reproduction here. Utitz also publishes a characterological year-book in which the various characterological currents are expounded.

Jaspers' psychology, as well as that of Spranger, established ideal types derived from the humanistic sciences. Side by side with these there has matured another investigation of personality which aims to characterize the expressional forms in which the character of the personality manifests itself: body-development (Kretschmer); body-posture, head and facial development, and handwriting (Klages). Here we are again very much concerned with the structural uniformities which apply to the personality as a whole, but in this psychology of expression the characterization rests not, at any rate not only, on the point of view of psychological intuition, but in part also on a procedure in accordance with empirically inductive methods which can not make claims to a complete intuitiveness.

Entirely from the point of view of psychopathology E. Kretschmer tries to solve the problem of typification. His book, *Bodily Structure and Character* (1926), which has become well known especially among physicians, proceeds from the basic supposition that the peculiarity of the relationship between corporeal and mental habits is more easily and more sharply comprehended in pathological than in normal cases. He carries over, then, to normal persons the relationship of characteristic mental and constitutional

symptoms which were observed in both great endogenous psychoses, schizophrenia and circular insanity, since he interprets disease as a distortion and an unhealthy exaggeration of normal dispositions. The constitutional forms are classified into three great groups: athletic, aesthenic, and pyknotic (compact) bodily build. The last is found especially among those of circular pathology; the first two forms, among the schizophrenic. Thus Kretschmer obtains a principle of classification for normal persons also, in that he divides them according to their constitutional form into cyclothymics (with pyknotic bodily build) and schizothymics (with aesthenic or athletic bodily build). The type of experience of the first recalls the pathological picture of the circular type when one thinks of it as exaggerated by disease; that of the schizothymic approaches the schizophrenic type. Accordingly it is characteristic of the schizothymic that they are oversensitive or without sensitivity, of the cyclothymics that they are hypomanic or depressive. Indeed the schizothymics fluctuate between extremes. They are problematic natures whose inner being in many ways does not correspond with their outward behavior. The cyclothymics are simple, steady folk. According to the temperament of the cyclothymic individual, he is weary or versatile, conservative or extravagant; thus the schizothymic also is stiff or hasty, apathetic or exuberant. There are a series of subclasses: for the schizothymic—the cool, aristocratic dispositions, the cold egoists, the sensitive aesthetics, the irascible and the fanatic; for the cyclothymic—the gay hypomanics who are always stimulated, the quietly contented or those of thick blood. The cyclothymics tend to be realists when they are poets, objectively descriptive empiricists when they are investigators, stolid progressives when they are political leaders, happy-go-lucky organizers or sensible middlemen. The schizothymic as a poet is pathetic, romantic, or aesthetic; as a scientist, precisely log-

ical or metaphysically speculative; as a politician, idealistic and fanatic or despotic and coldly calculating. The typification of Kretschmer can be made serviceable for investigations of heredity and contrariwise it can attempt to substantiate the relation between the symptoms of both types through the investigations of families.[17]

4. *The Psychology of the Unconscious, Especially Psychoanalysis and Individual Psychology*

Neither experimental differential psychology, nor structure[18] psychology, nor expressive psychology regards the mental life of a single individual. For all of them the general organization is of primary importance, whether it be causal or typical in nature. To have moved the mental life of the single individual, on the basis of his individual experiences, into the focus of attention is by all accounts one of the contributions of psychoanalysis, a fact which even so incisive a critic as H. Henning recognizes. The position of psychoanalysis we can further designate in that, in addition to the realm of its own peculiar school, it has won a wider circle of modified adherents. These agree with its basic concepts, when we understand it to refer to the doctrine founded upon experience, that the wish and fear complexes which we do not consciously trust ourselves to separate and which we have suppressed into the unconscious, can manifest themselves in misdeeds (in mis-speaking oneself, in errors in writing) but above all in dreams, by means of which the basic ideas that appear in the dream seem to be masked through translation into symbolic pictures, often to the point of unrecognizability because in their original forms they can not pass the "dream censor." In neurotic

[17] In this direction we ought to mention especially the work of H. Hoffmann, *Inheritance in the Mental Life*, 1922. As related to the problem of inheritance we must here indicate also W. Peters' book, *The Inheritance of Mental Peculiarities and the Psychical Constitution*, 1925.

[18] *Translator's note*: Not to be confused with "structural" psychology in America. As explained in the text above, the term refers rather to the "structure" of the personality.

personalities particularly, these may lead to pathological disturbances, even to organic diseases, which can be relieved through the solution of the suppressed complex by making the unconsciously operating cause conscious. On the other hand, the more moderate adherents tend to deviate from every overdrawn and dogmatic theory. They deviate particularly from the notion that the dream is exclusively derived from suppressed dream-ideas, from the inclination to generalize from pathological to normal cases, and from the commanding position which is assumed in the Freudian system by the *libido,* or the pleasure principle. Indeed Freud himself repeatedly states, even in his newer publications, *e. g.,* in the work, *The I and the It* (1923), that the charge is unjustified, that psychoanalysis does not concern itself with the higher moral values in human beings. To the moral and aesthetic tendencies are directly assigned the rôle of initiating the suppression. But the position of the sexual impulse, the pleasure principle, love in the widest sense, still remains an overpowering one. The egoistic impulse is secondary; even the impulse toward self-preservation is finally subordinate to love. The sublimated, higher impulsive forces are developed out of it; the "ego-ideal" or the "super-ego," as Freud calls it, which rules over the ego as conscience, is comprehended as the "inheritance of the Oedipus-complex" and is led back to its relationship to the father. Briefly, the peculiar life-giving principle is the erotic impulse. Side by side with it Freud more recently puts a second principle, the death impulse, "to which is given the task to lead organic life back into its lifeless condition." But it has been well said that he regards sadism as the representative of this impulse. In contrasting the two classes of impulses, the polarity of love and hate could be introduced, love and the death impulse struggling in the "It" to which, as a part of the suppressed mental content, the dynamic unconscious also belongs. Out of the "It" the con-

scious ego raises itself and the merely latent, merely descriptive unconscious, the "pre-conscious" which on the basis of remnants of recall can become conscious at any time. In spite of all the one-sidedness and boldness of the symbolism and the creation of hypotheses, the conviction always arises that here we are concerned with a deep-seated organization which only slowly reveals itself.

Psychoanalysis has produced an enormous literature, most of it from the international psychoanalytic publishing house at Leipzig, Vienna, and Zürich, and in the international periodical *Imago*. Among the works on medical psychology the *Medical Psychology* of P. Schilder, published in 1924, stands entirely on a psychoanalytical basis. In one of his earliest publications Freud himself has defended analysis by the laity. Neither study nor predisposition can make every physician a talented analysist. Contrariwise medical studies are not necessary requirements for the application of the analytical method.

This very over-emphasis of the erotic through psychoanalysis has led many erstwhile Freudians to go over today to "individual psychology."[19] As the leader among these must be mentioned the Viennese physician A. Adler (*Practice and Theory of Individual Psychology,* 1923). The conduct of a personality is to be understood on the basis of the "guiding lines" of its life which it has for the most part unconsciously given itself in earlier youth and by which it allows itself to be led in order to separate itself from its surroundings and to bring itself to fruition on the basis of the life-plan and the style of living that in the first years of childhood it had already almost unalterably built up. Here the "impulse to make good" stands at the focus, not the erotic impulse. More than that, every personality has that erotic impulse which best suits its total individuality. The

[19] *Translator's note*: This must not be confused with the psychology of individual differences. It concerns rather the mental life of the individual personality.

"feelings of being of little account" are the ones that are here suppressed. The girl who feels herself slighted by the boy staves off the "feeling of being of little account" in a "protest against men;" and so every one defends himself who has been handled in a stepmotherly fashion by nature or by his contemporaries, every mutilated, stunted, inwardly injured, neglected, intimidated person whose communal spirit has been disturbed. He establishes himself in many ways, he compensates for the actual or the assumed want, overcompensates for them very often, so that he surpasses those that are normally endowed and developed; or else he tries to make himself count in an anomalous or unsocial way in order that he may win recognition and love, which he demands, in order that he may divert attention to himself, or in order to maintain himself; or, finally, he takes flight in an imaginative life, revels in great plans whose consummation he can and must not attain in order not to disturb the aura which he casts about himself. The suppressed complexes of being of little value are not conscious to the personality; but they motivate its conduct on its own behalf, and for other individuals their behavior is correspondingly modified. In the dream, in erroneous responses, in neurotic diseases they come to the surface. The *milieu* is a deciding factor for individual psychology, the experiences of childhood determine the guiding-lines; the significance of hereditary tendencies and endowments are indeed not denied, but they play a minor rôle as contrasted with the influences of the *milieu* and with the directional power of past experiences. The task of the educator is to develop the endowment of the child, of every child, at the same time trying to understand the child on the basis of its guiding-lines. Noncompulsion in training and training with independence as the goal become, therefore, the cardinal demands of individual psychology. The child with organic deficiencies, the child that is hard to train, the only child, the first born,

the neglected, the supersensitive child are special problems in that field. It is clear that this doctrine makes its appeal to the physician, to the educator and to the criminalist just as it does to the psychologist. Like psychoanalysis the individual psychology of A. Adler has established a school. It has control over organizations which make theoretical and practical contributions to it (in child welfare stations and in consultation hours for parents) and over an extensive literature. The newly published comprehensive symposium, *Handbook of Individual Psychology* (1926) organizes the ideas of the movement in the various fields over which it has extended itself. By way of criticism it must be said primarily that the individual psychology of Adler, no more than the Freudian psychoanalytic psychology, should presume to make the attempt to establish an exhaustive psychology of the mental life; it is much rather—especially in borderline cases—a serviceable but always a one-sided point of view.

By means of an interesting plan for the classification of types, C. G. Jung, who like Freud and Adler started with the experience of a specialist in nervous diseases, has sought to reconstruct psychoanalysis and individual psychology (*The Psychology of the Unconscious Processes,* Zürich, 1917). He distinguishes an extravertive and an introvertive type. The former affectively yields to the object in his environment and suits himself to it; the latter avoids it, withdraws himself from it, and reflects upon it afterwards. The sexual theory of Freud, the psychoanalytic procedure, is a therapeutic method whose application corresponds to the extravertive type; individual psychology is more suited to the introvertive type. C. G. Jung, who introduced also the associative experiment, does not shut his eyes to the defects and limits of the analytic method. He designates the sexual theory as "unaesthetic and intellectual, little satisfying," the theory of impulse as "decidedly poisonous."

In the cited publication of Jung, it is the will to power which lies at the basis of the Adler theory; in the more recent development of individual psychology, the impulse to be effective has remained, the feelings of being of little worth have been allowed to become suppressed. These develop, however, above all from a disturbance of the communal feeling. The charge of "poisonousness" does not apply, indeed, to the modern individual psychology, at least not in the same measure. For the rest C. G. Jung emphasizes that one should apply both theories not to exaggerated ideals and to deep convictions which then are led back in a most painful manner to banal realities, but that both are essentially therapeutic instruments out of the equipment of the physician, whose task it is to obviate the dangerous incompatibility with the unconscious.

In his book *Psychological Types,* C. G. Jung relates his principle of classification (extraverts and introverts) in an interesting fashion to the distinction which Friedrich Schiller had made between the poets who write naively and those who write sentimentally.

In connection with this personality psychology of the unconscious, let us make a few remarks in general concerning the investigation and the interpretation of the unconscious mental life. The ideas of the French school at Nancy, which emphasizes with great stress the more positive influence of the unconscious through autosuggestion, have become available to a wider circle of German readers through a series of articles, mostly of a popular nature, concerning Coué's system and through a translation of Baudouin's works. H. Driesch published in 1926 an important book, *Fundamentals of Psychology* with the sub-title, *Its Present Crisis,* which gives a systematic synthesis of the anomalous phenomena of the mental life and the mental levels that belong to it (the normal ego, hypnotic ego, subhypnotic ego, dream ego, *etc.*). The fundamental idea of Driesch's psy-

chology is in general this: one only can *have* something consciously, one can not *do* something conscious. In particular the processes of thought and will complete themselves unconsciously. Without reference to pathological and anomalous phenomena, A. Drews has treated the normal mental life from the standpoint of the hypothesis of the unconscious in his comprehensive *Psychology of the Unconscious,* 1924, in accordance with the line of thought developed by Edward v. Hartmann in his philosophy of the unconscious.

In a few words we must finally refer here to the position of the so-called metapsychology or parapsychology in Germany. All the way from a clear cut disavowal (H. Henning, *Contemporary Psychology*), all shades of scepticism and critical foresight (M. Dessoir, *From Beyond the Mind,* 1917) to an optimistic approval of the justification of the new field of investigation (T. K. Oesterreich, *The Occult in the Modern World-Picture,* 1921)—all views are represented. Among the protagonists of the recognition of mediumistic phenomena (teleplasm, telekinesis) must be mentioned the nerve-specialist of Munich, Baron v. Schrenck-Notzing. A number of famous scholars have become convinced of the genuineness of the phenomena. On the other hand, the objectors have in no way been silenced. On the whole one can say that official science still regards this field with great reserve. Among those who have insisted on the necessity of breaking ground in the direction of scientific investigation in this field are above all the Tübingen philosopher, Oesterreich, and the well known vitalistic biologist and philosopher, Driesch, who is the present president of the Society for Psychical Research.

Comparative Psychology

The term comparative psychology is used in Germany as a generic name with a very wide denotation, to designate those fields of research which assume the task simply to investigate the peculiarities of the mental life under certain conditions (stage of development, genealogical affiliation, condition of health, community life, field of culture, *etc.*) in comparison with the mental life of the normal adult man which is studied in general psychology. The following tabular survey will probably most easily afford an orientation toward its manifold activities:

A. Animal Psychology

B. Comparative Psychology of Mankind

- I. Normal Mental Life
  - 1. Mental Life of the Individual, with special reference to natural affiliations:
    - a. In the direction of age-levels (*e. g.*, Child Psychology)
    - b. In the direction of genealogy (*e. g.*, the Psychology of Women)
  - 2. Mental Life in a Community, with special reference to social affiliations:
    - a. Simply to a mass, to a calling, to a class
    - b. To a people, a race, a culture-circle
- II. Abnormal Mental Life
  - 1. Abnormal Functions of Persons Normal in Themselves (dream)
  - 2. Mental Life of Abnormal and Diseased Persons

C. Psychology of Particular Functions of the Mental Life (*e. g.*, speech, religion, art)

In 1923 G. Kafka published a three-volume *Handbook of Comparative Psychology* in which, to be sure, the above mentioned fields were classified differently. We have already discussed in previous sections many subjects that could also be included within comparative psychology.

We have yet to call attention particularly to the extensive literature on child psychology. The methods of investigation correspond to the particular school to which the respective psychologist in general belongs. So H. Volkelt reported in an interesting way to the Ninth Psychological Congress in Munich concerning the progress of experimental child psychology. This throughout no longer deserves the criticism that it remains a stranger to the natural mental life of the child. K. Koffka's *The Fundamentals of Mental Growth* is written throughout from the standpoint of the psychology of *Gestalt*. E. Spranger's *Psychology of Youth* has already been discussed in connection with intuitive psychology. Individual psychology is represented by a long series of monographs dealing with the psychology of the child. Of the larger treatises concerned with this subject are still to be mentioned the works of Clara and William Stern and Charlotte and Karl Bühler.[20] The whole psychology of childhood is very strongly influenced by the doctrine of development.

In the field of animal psychology must be mentioned the significant investigations of W. Köhler in connection with apes, which have indicated unmistakable acts of intelligence on the part of animals; furthermore the researches of von Frisch on *The Speech of Bees* (1924). The bees which have found nourishment communicate their manner of satisfaction in the bee-hive through dances which differ with the kind of nourishment. The distinguishing rôle in the

[20] C. and W. Stern, *Monographs concerning the Mental Development of the Child*, 1922; W. Stern, *The Psychology of Early Childhood*, 1923; *The Intelligence of Children and Youth*, 1920; K. Bühler, *The Mental Development of the Child*, 1924; Ch. Bühler, *The Mental Life of Youth, An Analysis and Theory of Psychological Puberty*, 1925.

vehicle of communication seems to be played by smell incidentally distributed.

Metaphysical Psychology

The final philosophical and uncommonly significant metaphysical questions in relation to psychology are:

1. How is the mutual dependence of the mental and bodily processes to be explained: do the series of conscious events and those of neural processes simply run parallel, or are they in a condition of interaction?
2. Is there a real unconsciousness?
3. Does the bodily event correspond only to a sign of the mental or is it by inner necessity a symbolic expression?
4. What is the meaning of the mental life?
5. Can the mental exist by itself, is there a personal immortality?
6. Is the mental life determined, or is there a genuine freedom of the will?

It is not within the scope of this report to discuss these questions in detail. Only a few remarks may be devoted to these border-line issues. Toward the first of them is aimed the question which arises in connection with almost every investigation in experimental psychology: does the observed uniformity of occurrence permit of a physiological explanation or must it be explained psychologically (Weber-Fechner law, scope of consciousness, geometric-optical illusions, spatial perception, *etc.*). The question does not indeed decide the old controversy between parallelism and interactionism, but it can be brought in relation to it. E. Becher of Munich must be mentioned as a representative of a refined doctrine of interactionism (doctrine of double purpose and double effect) according to which the mental as well as the neural event at each temporal moment depends simultaneously upon the preceding mental and neural events,

both of which therefore continuously influence each other. The mind plays the part of leader in the events of the organism and especially of the brain. The residuals of memory are unconscious mental contents. The development of thought in Becher's system is closely allied to that of the psycho-vitalistic Driesch. From the Catholic point of view the relationship of the soul to consciousness and to the body has been set forth by J. Geyser in his book, *The Soul* (1914). As representatives of the parallelistic standpoint are to be mentioned Th. Ziehen, T. Schultz, and Heymans.

A special significance, also of a theoretical sort, attaches to the bearing of the second of the above-mentioned questions upon psychoanalysis. Is the unconscious anything more than a mental phenomenon in the shade? Does it lead a peculiarly real, dynamic existence? Also the question of a super-personal unconscious arises in this connection. A comprehensive discussion of these problems has been developed recently in G. Giese's, *The Extrapersonal Unconscious* (1924). The remaining questions develop discussions that lead too far afield into the realm of pure metaphysics.

Summary

The preceding sketch might easily arouse the impression of a confusing multiplicity of tendencies. A survey, with the exclusion of applied and comparative psychology, is offered in the table on the next page. This tabular survey in itself shows that the chaos is not as bad as it may seem at first glance and as it is occasionally claimed. The various currents and tendencies can very well be justified in part when considered as proceeding side by side. Their methodological differences correspond indeed to fundamentally different problems that have been set up. A point which has perhaps not yet been sufficiently emphasized is the fun-

Psychological Movements Exclusive of Applied and Comparative Psychology

	1. Experimental Method, (introspection of the observer)	2. Intuitive Method, (empathy, re-living, intuition, natural observation)	3. Objective Procedure (through observation of others)
1. General Psychology (investigation of single psychical contents and processes)	a. Psychology built up out of elements b. Psychology of *Gestalt*	Phenomenological point of view	a. Psychology of expression b. Psychology of behavior
2. Personality Psychology (systematic characterization of the total personality)	Differential psychology	"Structure" point of view, ideal types	Classification into types with reference to bodily-build, physiognomy, handwriting, bodily posture
3. Explanation of the mental life by means of externalizing the unconscious on the basis of (past) experiences (psychoanalysis, individual psychology)			

damental difference between the mind and its content and processes as an *object,* and observing it as *subject.* In the first case the investigation is directed towards the objective mental life; in each case, towards the clear presentation and systematization of mental realities and their real uniformities according to law, towards the organization of characteristics of outward stimuli in connection with the neural events on the one hand and the psychical phenomena on the other, and towards the interrelationship of the conscious and the unconscious. The vanishing point in the perspective of this objective psychology, which deals with the assumption of the reality of the mental and with the question of the body-mind relationship, lies in a non-valuating metaphysics, in the question concerning the rôle of the mental in the scheme of total reality. This question naturally will no longer lie beyond the pale of the experimental method which is recognized as adequate in its own realm, by which it is assumed that experimental psychology also can justify its own inner principles which correspond to the peculiar nature of the objects of its science, the mental phenomena. In the second of the above-mentioned cases the question is directed toward the subjective mental life, towards the significance of the individual experiences within the limits of the total personality of the experiencing subject. This question involves those of pre-scientific mental and human knowledge. It interests itself in the manifestations of the mental life as an outflow and an expression of the personality. In the first attitude, for example, we are concerned with the ideas and feelings as objects, with the establishment of the integrative characteristics of these mental contents, how they arise and proceed; in the case of the second attitude, to understand their inner nature as experiences and their meaning for the personality which experiences them, to show how the single experience arises out of the total structure and how contrariwise the person-

ality is to be understood in terms of it, and how the personality reflects itself in the experience. This psychology, which as a science should of course likewise aim at systematization, must naturally employ the intuitive method, the observation of structure, and must try to investigate the relationship between the peculiarity of the experience and the peculiarity of the forms of expression, especially of the body. The vanishing point of the perspective of this subjectivisitic psychology lies in evaluative metaphysics and in the cultural sciences. The type first described seeks after relationships of reality; subjectivistic psychology, after the integrity of meaning. For the former, therefore, causal observation is of most service; for the latter the observation of end is more important. Inasmuch as the object is intrinsically the same for both, namely the mental event, the various fields naturally overlap and both points of view struggle for priority. But this is no loss. A personality investigation of the future must call into its service methods of the most varied nature: the experimental conception of individual peculiarities, the observation of structure in accordance with a philosophy of life, and a feeling for standards of value; the causal and the purposive categories; the study of inherited dispositions, and the influence of experiences conditioned by the environment; the indices which psychopathology affords, and knowledge of the manner in which the mental life expresses itself in bodily forms and manifestations; psychoanalysis, and the method of observation of individual psychology. But also on behalf of the objectivistic, theoretical, systematic, metaphysical psychology must various tendencies coöperate: the analytical and the *Gestalt* attitude, the investigation of the consciousness and unconsciousness of both the normal and the pathological.

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SOME RECENT BOOKS

The Functions and Forms of Thought. By Albert E. Avey, Ph.D. New York, Henry Holt and Co., 1927. Pp. ix+395.

To introduce students to the exact discipline of the algebra of logic in such a fashion that its symbols and operations shall appear germane to the concrete processes of thinking and that the algebra shall seem to be a veritable science of the field of thought—rather than to be merely an exacting game quite detached from the living actualities of thinking—is certainly a task as difficult as it is rare in accomplishment. This new text, through its unusual combination of the functional and formal approaches to logical analysis certainly mitigates some of the difficulties. It presents an interesting and novel program for a first course in logic.

Idealism as a Philosophy. By R. F. Alfred Hoernlé. New York, George H. Doran Co., 1927. Pp. 330.

A masterly exposition of philosophical idealism. The author has clearly differentiated the "four main types"—Spiritual Pluralism, Spiritual Monism, Critical Idealism, and Absolute Idealism—and, with a fine but properly subordinated historical orientation, studied and analyzed each type in the form it assumes in the rivalries and controversies of present day discussion. This volume is a considerable amplification and revision of the earlier (1924) *Idealism as a Philosophical Doctrine.* Of special interest is the fuller treatment, in additional chapters, of Ward's Pluralism and Theism and of Bosanquet's Philosophical Theory of the State, and the admirable comparative treatment of Schopenhauer and Bergson as representatives of "spiritual monism." The book is a model of philosophical interpretation and of philosophical writing.

Collected Works of V. I. Lenin. Vol. XIII: *Materialism and Empirio-Criticism.* Tr. by David Kvito. New York, International Publishers Co., Inc., 1927. Pp. $4.00.

This volume inaugurates the project of a finely dressed edition, in English, of the complete writings and speeches of V. I. Lenin. The publishers have been aided by the Lenin Institute of Moscow in securing revised and edited texts for translation, along with explanatory notes, and photographs and facsimiles of manuscripts. Thus the edition, which is expected to run to thirty volumes, will doubtless prove definitive as well as complete.

The present volume is not so much a sober, objective philosophical treatise as a lashing of those who are believed to depart from the teachings of the socialists' Bible. It is a spirited defense of the Marxian philosophy, termed dialectical materialism, and a heavily documented polemic against all attempts at a philosophical revision of the latter, more especially the empirio-critical philosophy of the Russian followers of Ernst Mach. The latter is alleged to cover up "the old errors of idealism and agnosticism with a new brand of trickery and new stock of phrases and sophistical contrivances," tending towards "close union with one of the most reactionary of idealistic schools—the philosophy of immanence." In a chapter on "The Latest Revolution in Natural Science and Philosophic Idealism," it is recognized that numerous modern physicists "fell from relativism into idealism," but this is ascribed to "ignorance of dialectics." It is maintained that the type of physics "in vogue now is just as reactionary and transitory as the fashionable idealistic physiology of the recent past." While of little importance to philosophy proper, the book will be of vital interest to those seeking to understand the mentality and the outlook of an individual and a party tremendously potent in the world of affairs.

Philosophy. By BERTRAND RUSSELL. New York, W. W. Norton & Co. Pp. vi+307. $3.00.

This work, which appears in Great Britain under the title *An Outline of Philosophy,* offers a general account of the problems facing philosophy today. To them the author brings his unusual powers of analysis and his learning in the fields of psychology and physics. The doctrines of physics as modified by the theory of relativity and those of psychology as influenced by behaviorism are utilized in the construction of a philosophy of "neutral monism." The chapter on ethics exhibits a radical reversal of attitude from that taken in the *Philosophical Essays* of 1910, though the grounds for this change are, unfortunately, not presented as fully as many readers might desire.

The Analysis of Matter. By BERTRAND RUSSELL. New York, Harcourt, Brace & Company, 1927. Pp. viii+408. $6.00.

The student of philosophy is here given an understanding of the problems facing him in the field of physics, and the student of physics is afforded an insight into the speculative character which his subject has assumed, as well as into the philosophical implications of the various lines of theory. Readers having a general knowledge of psychology and physics will here find a cogent statement of Mr. Russell's metaphysics of "neutral monism." A good approach to the book would be the author's earlier work, *The Analysis of Mind.*

The Ways of Knowing. By WILLIAM P. MONTAGUE. London, George Allen & Unwin, Ltd., 1925. Pp. +427.

Three aims are here paramount: To disentangle the methods of logic and of epistemology from the subject of metaphysics; to set up these methods with their historical and their current objections; and to synthesize the methods of logic into harmonious affiliations, as well as to restate the methods of epistemology from a realistic point of view in such a way that they are "not only compatible with, but implicative of one another." In the disentanglement and setting up of the methods, *The Ways of Knowing* achieves its greatest success; the student with a background of two or three philosophical or psychological courses is provided with an excellent opportunity of "getting straightened out philosophically." The attempt to reconcile the methods of logic is less happily accomplished. In fact, perhaps the need is in this case a bit artificial. The restatement of the methods of epistemology, however, while showing a realistic bias, should aid in bringing the rival camps of new realism, critical realism, and idealism into a better understanding of one another even if not into closer harmony. The book is "meaty" and suggestive, and shows the meticulous work of many years of presentation and discussion of the problems considered.

Reality. By BURNETT HILLMAN STREETER. New York, The Macmillan Company, 1926. Pp. xviii+350.

Philosophical readers with a theological bent will be particularly interested in this volume. As its sub-title indicates, it is "a new correlation of Science and Religion." The book is a fine expression of a mind that inclines towards idealism and strives to reconcile the recent developments of science with modernistic Christianity. A cosmology built from the conclusions of the sciences, it contends, can yield only a quantitative reality; to secure a true cosmology, the qualitative features of experience must likewise be taken into account. These qualitative features come from an analysis of "the phenomena social, historical, psychological—of human religion, of which the most important is the fact that Christ once lived and taught and died." Helpful synopses preface the individual chapters.

Philosophy of the Recent Past. By RALPH BARTON PERRY. New York, Chas. Scribner's Sons, 1926. Pp. viii+230. $2.00.

This book employs roughly the same topical outlines as the author's earlier work, *Present Philosophical Tendencies:* It describes in swift, broad strokes the development of the four main trends in present day thought from about 1860 to the present time—that is, of naturalism, both materialistic and positivistic; of spiritualism and idealism; of pragmatism, voluntarism, and vitalism; and of realism. Admirable for its critical expositions and its bibliographical directions, the account is too brief to present more than the merest skeleton of present day philosophy. As an introduction to current thought it will require a very extensive elaboration and supplementation.

Mind and Body. By HANS DRIESCH. Authorized translation by Theodore Besterman. New York, Lincoln Mac Veagh, 1927. Pp. 191. $3.00.

In admirable translation and attractive dress, the third edition of Driesch's *Leib und Seele,* first published in 1916, is now available to English readers. A number of traditional arguments against psychophysical parallelism are here supplemented by others more or less original with the author, and based in part on his vitalistic doctrine and in art on the great disparity between the manifoldness of the psychical and that of the physical order. The case made against mechanical parallelism is both clear and impressive. A certain parallelism, however, is defended, namely, between the activities of the mind which underlie conscious states, the conscious states themselves, and the "psychoid" or entelechy, a non-spacial entity possessed, according to Driesch's psychovitalistic philosophy, by all living organisms and determining their characteristic functions.

Religious Experience and Scientific Method. By HENRY NELSON WIEMAN. New York, The Macmillan Company, 1926. Pp. 387.

Parts I and II of this valuable book expound the reciprocal relations believed to exist between science and religion; Part III contains a critical analysis of various current conceptions of religion, together with an interpretation of the function of religion which strongly reflects the influence of W. E. Hocking. Religious experience is conceived as experience of an object which, however undefined, is genuinely external to the individual undergoing the experience. If religion is not to lose intellectual standing and to degenerate into a means for self-deception, its object, the author argues, cannot be more peculiarly "within" than are the objects of scientific investigation. "Religion must plant itself firmly on the data of sense else it will become the plaything of the sentimentalist and nothing more."

God and Intelligence in Modern Philosophy. By FULTON J. SHEEN, M.A., PH.D. London, Longmans, Green and Co., 1925. Pp. xiii+295.

The "new conception of God"—by which is meant primarily the conception of a finite, immanent, and evolving or "emerging" Deity—is studied as being one of the most important products, theoretically and practically, of the modern philosophical spirit which is held to be essentially anti-intellectualistic. This concepton is admirably analyzed in the thoroughly documented first part of the volume, where the author's wide and sympathetic acquaintance with the recent extensive literature is strikingly evident. The second part of the book sets the modern and the Thomistic notions of God and of intelligence in effective critical contrast. The sound scholarship of the work merits the careful reading which the author's humane and lucid style makes a pleasure.

Hindu Mysticism. By S. N. DASGUPTA. Chicago, The Open Court Publishing Company, 1927. Pp. xx+168. $2.00.

This interesting and informative volume presents the substance of six lectures delivered by the celebrated scholar of the University of Calcutta on the Harris Foundation of Northwestern University. In general the problem is treated genetically, so that we now have a brief, though doubtless authoritative, description of the various forms of Indian mysticism in the order of their development: Sacrificial Mysticism, Upanishad Mysticism, Yoga Mysticism, Buddhistic Mysticism, Classical Forms of Devotional Mysticism, and Popular Forms of Devotional Mysticism are the subjects of the several chapters.

Humanism. By CURTIS W. REESE. Chicago, The Open Court Publishing Company, 1926. Pp. 85. $1.00.

This book makes no attempt to pour the old wine into new bottles but rather represents a break from the traditional theology. Religion is conceived as the quest for facts and values to be used in the enrichment of human life. Brief chapters discuss the humanizing of religion, of ethics, of mysticism, of human nature, of liberalism, of the church and of democracy.

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THE MONIST

SOCIAL AS A CATEGORY

THERE are at the present time a considerable number of persons who habitually employ the social as a principle of philosophic reflection and who assign it a force equal and even superior to that ascribed the physical, vital and mental. There are others, probably a greater number, who decline to take "social" seriously as a category of description and interpretation for purposes of philosophy, and who conceive any attempt so to take it as involving a confusion of anthropology and sociology with metaphysics. The most they would concede is that cultural material may throw light on the genesis and history of human beliefs about ultimate subject-matter. But it is asserted that it is but a case of the familiar genetic fallacy, the confusion of the history of belief with the nature of that believed, to assign to such an account a place anywhere except within the history of human culture. Such a situation solicits attention; and I desire to state as far as time permits what is the intent of those who attribute genuine philosophic import to the idea of the social.

A start may be conveniently made by noting that associated or conjoint behavior is a universal characteristic of all existences. Knowledge is in terms of related objects and unless it is supposed that relations are a subjective intrusion, or that, *a la* Hume, only *ideas* are associated, relation as the nerve of science correlates with association among things. This fact being noted, we observe that the qualities of associated things are displayed only in associa-

tion, since in interactions alone are potentialities released and actualized. Furthermore, the manifestation of potentialities varies with the manner and range of association. This statement is only a formal way of calling attention to the fact that we characterize an element, say hydrogen, not only, as the name implies, in terms of its water-forming potentiality but ultimately in terms of consequences effected in a whole range of modes of conjoint behavior.[1]

These considerations being premised, attention fastens upon the fact that the more numerous and varied the forms of association into which anything enters, the better basis we have for describing and understanding it, for the more complex is an association the more fully are potentialities released for observation. Since things present themselves to us in such fashion that narrower and wider ranges, simpler and more complex ones, are readily distinguished, it would appear that metaphysical description and understanding is demarcated as that which has to do with the widest and fullest range of associated activity. And I remark that if the phrase "degrees of reality" can be given an empirically intelligible meaning, that meaning would seem to depend upon following out the line of thought thus suggested.[2] In short, there appears to be a fairly straight road to the conclusion that a just gauge of the adequacy of any philosophic account of things is found in the extent to which that account is based upon taking things in the widest and most complex scale of associations open to observation.

In making this statement I am not unaware that the

[1] In case there is objection to the use of the conceptions of potentiality and actualization, it may be pointed out that the same facts may be stated, though as it seems to me more awkwardly, by saying that things in different modes of association occasion different effects and that our knowledge of them is adequate in the degree in which it includes a broad range of effects due to a variety of associated operations.

[2] It is perhaps worth while in passing to note also that such concepts as "levels" and "emergence" seem to be most readily definable upon the basis of this consideration.

opposite method has been pursued and is still recommended by philosophers in good repute: namely, a method based on predilection for ultimate and unattached simples, called by various writers essences, data, etc. The question of whether we should begin with the simple or the complex appears to me the most important problem in philosophic method at the present time, cutting under, for example, the traditional distinctions of real and ideal. Or, if it be said that while perforce we are compelled psychologically and practically to begin with the complex but that *philosophy* begins only when we have come upon simples, the problem of method still remains. Are these simples isolated and self-sufficient, or are they the results of intellectual analysis, themselves intellectual rather than existential in quality, and therefore of value only in the degree in which they afford us means of arriving at a better understanding of the complex wholes with which we began? Time forbids consideration of this fundamental question. I content myself with observing that the hypothesis that ultimate and detached simples are the only reals for philosophy seems to be the sole logical alternative to the position that the wider and more complex the range of associated interaction with which we deal the more fully is the nature of the object of philosophic thought revealed to us. Hence, the issue as to method reduces itself to the question whether isolated simples can be asserted without self-contradiction to be ultimate and self-sufficient on their own account. Those who do not accept them as the real, appear committed to the position herein stated.

While the fact of association and of range of associations as determining "degrees of reality" gives us our starting point, it gives *only* a starting point for discussing the value of "social" as a philosophic category. For by the

social as a distinctive mode of association is denoted specifically human forms of grouping, and these according to the findings of science appear only late in time. Hence, the objection which readily occurs to mind. The view that "social" in its characteristically human sense is an important category is met with the retort that, on the contrary, it is but a highly special case of association and as such is restricted in significance, humanly interesting of course, but a matter of detail rather than of an important principle. My introductory remarks were intended as an anticipatory reply to such an objection. Association barely by itself is a wholly formal category. It acquires content only by considering the different forms of association which constitute the material of experience. Thus, while it is admitted that society, in the human sense, is a form of association that is restricted in its space-time manifestation, it cannot be placed in contrast with association in general. Its import can be determined not by comparing it with association in its generic formal sense, but only by comparing and contrasting it with other special types of association.

This fact gives what has been said regarding the importance of range and complexity of association as a philosophic measure its special import. If reference to association is to be anything more than a ceremonial and barren act of deference, if it is to be used in any enterprise of philosophic description and understanding, it indicates the necessity of study and analysis of the different modes of association that present themselves in experience. And the implication of our argument is that in such a comparison of definite types of association, the social, in its human sense, is the richest, fullest and most delicately subtle of any mode actually experienced. There is no need to go through the form of discovering, as if for

the first time, the different typical modes which are to be compared and contrasted. They have been made familiar enough in the course of thought. Aside from social, whose thoroughgoing admission still awaits adequate acknowledgment, they are the physical, the vital or organic, and the mental. The gist of our problem consists in deciding which of these forms presents the broader and fuller range of associations. Association in general is but a matrix; its filling are the facts of association actually displayed in nature. Indeed, the category of association is but a highly abstract notation of what is formally common to the special modes.

Before coming, however, to this affair of comparison, which constitutes the main topic of this paper, it will be well to clear the ground of certain notions which led to misconstruction and depreciation of the meaning of "social" as a category. A moment ago I referred to the facts of association as they are actually displayed in human life. The reference implied that social facts are themselves natural facts. This implication goes against preconceptions engendered by the common opposition of the physical and the social sciences; by the tacit identification, in other words, of the natural sciences with the purely physical. As far as this idea lingers in the back of the head, social and natural are oppositional conceptions; the attempt to find a key by which to read the cipher of nature in the social is then immediately felt to be absurd; this feeling then operates to effect the contemptuous dismissal of the "social." Denial of opposition between the social and natural is, however, an important element of the *meaning* of "social" as a category; and if anyone is interested in finding out the intent of those who would employ "social" as a philosophic category, that one should begin by asking himself what are the implications of the current separation of natural

and social sciences, and whether upon reflection he is willing to stand by them. A denial of the separation is not only possible to a sane mind, but is demanded by any methodological adoption of the principle of continuity, and also, as will be indicated later, by social phenomena themselves. Upon the hypothesis of continuity—if that is to be termed a hypothesis which cannot be denied without self-contradiction—the social, in spite of whatever may be said regarding the temporal and spatial limitation of its manifestations, furnishes philosophically the inclusive category.

A two-fold harm is wrought by the current separation of social and natural science and by accepting the meaning which attaches to social after it has been thus divorced. The chief point at which philosophy may be of aid in the pursuits of the social sciences lies precisely here. In the degree in which what passes for social science is built upon the notion of a gap between natural and social phenomena, that science is truncated, arbitrary and insecure. An analytic survey of the present status of the social sciences would be needed to justify this remark. But there are only a few sociologists who have ventured as yet to assert that there is something distinctive or unique in social phenomena; so we are met with a paradoxical situation in which social phenomena are isolated from physical and organic considerations and yet are explained in physical, organic or psychological terms instead of in characteristically social terms. In psychology the persisting tradition of a purely individualistic and private subject-matter is to be attributed directly to neglect of the social conditions of mental phenomena, while indirectly this neglect goes back to a separation of social from natural: since only acknowledgment of the continuity of the social and the natural provides the intermediary terms which link psychological

phenomena with others. Some forms of behaviorism, in reaction against the unnatural isolation of the physical and mental, merely throw the latter overboard entirely, and reduce them to the terms of the material dealt with in purely physical science. In political science may be noted an oscillation between the adoption of non-natural categories, such as a transcendent "will" and the resolution of political phenomena into physical terms of conflict and adjustment of forces. A recent economic writer has asserted that economic science has so neglected the place of technology in industry that a generation has gone forth which, although "educated" in economic science, is almost wholly ignorant of economic affairs.[3] Technology is evidently a matter that connects directly with the development of physical science; the point, instead of being an incidental one, can be shown to be intimately connected with all the sound objections brought against the abstraction of the "economic man." The economic man cannot be set in his place in social phenomena, in his actual relations to legal, political, technological and other cultural institutions, until these are connected with natural phenomena.

These are but too casual and abbreviated hints of the meaning of the assertion that the performance of the service which philosophy might theoretically render to the social sciences waits upon the frank acknowledgment of the social as a category continuous with and inclusive of the categories of the physical, vital and mental.

This reference to the sciences is not to be regarded, however, as implying an adoption of that conception of philosophy which identifies it exclusively with either an analysis or a synthesis of the premises or results of the special sciences. On the contrary, the sciences themselves are outgrowths of some phase of social culture, from which

[3] Tugwell, *Industry's Coming of Age*, p. vii.

they derive their instruments, physical and intellectual, and by which their problems and aims are set. The only philosophy that can "criticize" the premises of the special sciences without running the danger of being itself a pseudo-science is that which takes into account the anthropological (in its broadest sense) basis of the sciences, just as the only one that can synthesize their conclusions, without running a like danger, is the one which steps outside these conclusions to place them in the broader context of social life.

In now turning to the main point, the social as a ranking philosophic category, because it is indicative of the widest and richest range of association empirically accessible (and no apology is offered for basing philosophy upon the empirically manifest rather than upon the occult), it is necessary to point out a certain ambiguity of language which because of brevity of exposition, necessarily attaches to our statement. Social *phenomena* are not of themselves, of course, equivalent to social as a *category*. The latter is derived from the former by means of an intellectual analysis which determines what is their distinctive character. Now I am not here dealing with the important and eventually imperative problem of the category *of* the social, or the determination of the characteristics which constitute the distinguishing nature of the social, but rather with social phenomena *en gross* as comprehending, for philosophic analysis, physical, organic and mental phenomena in a mode of association in which the latter take on new properties and exercise new functions. In other words, I am here implying that social phenomena do as a matter of fact manifest *something* distinctive, and that that something affords the key to a naturalistic account of phenomena baffling philosophic interpretation when it is left out of account. To those who accept this view, the burden of proof

as to the value of "social" as a metaphysical category lies upon those who habitually treat its worth as trivial. For what do *they* mean by social phenomena? If social phenomena are not an exemplification upon the widest and most intricate scale of the generic trait of associated behavior or interaction, what do they signify? I see but one kind of answer open to them, covering two alternatives: Either social phenomena are anomalous, an excrescence or intrusion, supervening in an accidental and meaningless way upon other phenomena, or else they have no distinctive import, being in reality *nothing but* physical, vital or psychological phenomena. Does not each of these views contradict the observable traits of social phenomena?

Upon a *prima facie* view, social phenomena take up and incorporate within themselves things associated in the narrower way which we term the physical. It gives a ludicrous result to think of social phenomena merely as lying on top of physical phenomena; such a notion is negated by the most casual observation of the facts. What would social phenomena be without the tools and machines incorporate within themselves the physical factor of land, including all the natural resources (and obstacles) and forms of energy for which the word "land" stands? What would social phenomena be without the tools and machines by which physical energies are utilized? Or what would they be without physical appliances and apparatus, from clothes and houses to railways, temples and printing-presses? No, it is not the social which is a superficial category. The view of those is superficial who fail to see that in the social the physical is taken up into a wider and more complex and delicate system of interactions so that take on new properties by release of potentialities previously confined because of absence of full interaction.

The same consideration applies to the inclusion within

the social of the vital or organic. The members of society are living human beings with the characteristics of living creatures; but as these enter into distinctively human associations their strictly organic properties are modified and even transformed. Certain physiological factors of sex, of procreation, immaturity and need of care, are assuredly implicated in the functions expressed in family life. But however great the role of animal lust, there is something more in any family association than bare physiological factors. The fact of transformation of the purely organic by inclusion within the scope of human association is so obvious—note the significant case of change of cries into speech—that it has indeed led to belief in the intrusive intervention of unnatural and supernatural factors in order to account for the differences between the animal and the human. The disjunction between the assertion that the human is the merely animal and the assertion that an extraneous force is obtruded is not, however, exhaustive. There remains an alternative which is most fully confirmed by empirical fact, namely that the difference is made when new potentialities are actualized, when the range of interactions that delimits the notion of the organic is taken up into the wider and more subtly complex association which forms human society.

Since traits derived from the physical mode have been admitted into philosophy, since materialism in other words is at least grudgingly admitted into philosophic companionship, and since organic philosophies, framed on the pattern of vital phenomena, upon conceptions of species, development and purpose, are freely admitted, it seems arbitrary, to say the least, to exclude the social from the role of a legitimate category.

That the mental has a recognized claim to serve as a category of description and interpretation of natural ex-

istence is evident in the very existence of idealistic philosophies. There are those who deny the ability of these theories to execute their claim, just as there are those who deny the capacity of the physical and vital to make good. But thought, as well as matter and life, is at least admitted to rank as a respectable figure in the gallery of categories. Now of the mental as of the physical and organic it may be said that it operates as an included factor within social phenomena, since the mental is empirically discernible only where association is manifested in the form of participation and communication. It would therefore appear legitimate to adopt as a hypothesis worthy of being tried out the idea that the ulterior meaning of the mental as well as of the physical and vital is revealed in this form of associational interaction. The implication is not they have no describable *existence* outside the social, but that in as far as they appear and operate outside of that large interaction which forms the social they do not reveal that full force and import with which it is the traditional business of philosophy to occupy itself.

After this statement of the intent of the enterprise of employing the social as a category, it remains to sketch in a summary fashion a few specimens of its implications which are relevant to the clarification of some outstanding philosophic issues. We may conveniently begin with the matter just referred to, the place of the mental in the existential scheme of things, using for purposes of our discussion as the equivalent of "mental" the fact of *meaning,* whether direct as in cognition of objects, or indirect as in esthetic, affectional and moral relations. The state of philosophic discussion exhibits a dilemma, or rather a trilemma. The mental is viewed (i) as a mysterious intrusion occurring in some unaccountable way in the order of nature; (ii)) as illusory, or, in current language, as an

epiphenomenon; and (iii) as ontological, whether as a section of being on the same level with the physical section, or as the Being of which so-called physical things are but disguised forms or "appearances." It may be argued that the persistence of the problem and of these widely opposed modes of solution is itself strongly indicative that some factor of the situation, the one which is the key to understandings has been omitted. In any case, the persistence of these unreconcilable conceptions is a challenge to search for something which will eliminate the scandal of such sharp antagonisms in interpretation. Now when we turn to the social, we find *communication* as an existential occurrence involved in all distinctively communal life, and we find that communication effects meaning and understanding as conditions of unity or agreement in conjoint behavior. We find, that is, meaning where it is not an anomaly nor an accidentally supervening quality but a constitutive ingredient of existential events. That is, we find meaning as a describable, verifiable empirical phenomenon whose genesis, modes and consequences can be concretely examined and traced. It presents itself not as an intrusion, nor as an accidental and impotent irridescence, nor as the reduplication of a structure already inhering in antecedent existence, but as an additive quality realized in the process of wider and more complex interaction of physical and vital phenomena; and having a distinctive and concretely verifiable office in sustaining and developing a distinctive kind of observable facts, those namely which are termed social. We do not then have to resort to purely metaphysical and dialectical considerations, adopted *ad hoc,* in order to "save" the reality and importance of the mental. The realm of meanings, of mind, is at home, securely located and anchored in an empirically observable order of existence. And this order stands in genetic continuity with

physical and vital phenomena, being, indeed, these phenomena taken up into and incorporated within a wider scope of associated interactions. We do not have to read back the mental into the antecedent physical, much less resort to the desperate measure of making it so all-inclusive that the physical is treated as a disguised and illusory "appearance" of the mental. The social affords us an observable instance of a "realm of mind" objective to an individual, by entering into which as a participating member organic activities are transformed into acts having a mental quality.

These considerations are not supposed to demonstrate the truth of the position taken; but they are seriously proposed to indicate a hypothesis which is worthy of trial; as a hypothesis which starts from a *vera causa,* that is, from an empirically verifiable fact, instead of from concepts which have no such observed locus of their own but which are invented simply to account for facts otherwise inexplicable. In the second place, the actual structure of knowledge viewed in relation to the operations by which it is concretely established to be knowledge in the honorific sense, that is as tested and justified, as grounded, instead of as mere opinion and fantastic belief, can be understood only in social terms. By knowledge as grounded I mean belief in relation to evidence that substantiates it. Now the simplest distinction that can be drawn between objects of knowledge in this sense and mere matters of opinion and credulity, or even of thought however internally self-consistent and formally valid, is the distinction between the socially confirmed and the privately entertained. Opinion and theory as long as they are uncommunicated, or as long as, communicated and shared, they are unconfirmed in conjoint behavior are at best but candidates for membership within the system of knowledge. To labor

this point is to weaken it. It is a truism that science is science because observations, experiments and calculations are so conducted as to be capable of report to others and repetition by others. Now this report and repetition are wholly misconceived when thought of simply as external additions to thought complete in itself. They signify that thought itself is conceived and developed in such terms as to be capable of communication to others, of understanding by them, and of adoption and utilization in cooperative action. Report, communication, is not a bare emission of thoughts framed and completed in private soliloquy or solipsistic observation. The entire operation of individual experimentation and soliloquizing has been influenced at every point by reference to the social medium in which their results are to be set forth and responded to. Indeed what has been said is an understatement. It is not simply that the characteristic findings of thought cannot pass into knowledge save when framed with reference to social submission and adoption, but that language and thought in their relation to signs and symbols are inconceivable save as ways of achieving concerted action.

In passing, it may also be remarked that the reference to private thought as a *candidate* for knowledge through incorporation into conjoint associated action (which also involves, be it recalled, physical conditions and hence is subject to test by physical consequences), throws light upon and may give the key to another mystery of philosophic speculation—namely the nature of mind as subjective. For the latter when it is interpreted from the standpoint of the social as a category, does not appear as an anomaly, much less as a bogey, an intrusive and wholly undesirable source of error. Thinking and its results present themselves as indeed hypothetical, demanding trial in terms of social action, and hence as subject to error and defeat.

But they also offer themselves as having a positive and constructive office. For they are not candidates merely for reception into the social *status quo,* the received and established order of associated behavior, they are rather claimants for a changed social order to be effected in the very action which they promote and by which they are to be tested. Sometimes the claim is narrow, affecting only the behavior of a selected group who are experts in the particular field; sometimes, as in the proposal of new policies, it is wide in the appeal which it virtually makes. But the former type, addressed primarily say to a group of scientific specialists, has a way of expanding; it cannot be kept cooped up; and in any case there is no difference in principle.

In giving illustrations, one is embarrassed by the range of philosophic problems which suggest themselves as receiving illumination and clarification when the social is employed as a category of description and interpretation. We may, however, draw, almost at random, upon the moral field. Consider the recurrent discussion concerning the objectivity of moral distinctions and judgments, with its ceaseless vibration between reduction of them to private preferences, none the less private when they happen to be collectively entertained, and recourse to purely transcendent considerations in order to "secure" their objectivity. It would be dogmatic to assert in this casual allusion that the problem is solved when the social is used as a category, and the social is seen to incorporate the physical, organic and psychological; but no one can reasonably deny that the whole problem takes on a very different aspect when its elements are placed in this context.[4]

An allied topic concerns the "naturalness" of the moral

[4] Compare the treatment of the objectivity of esthetic judgments in the article *"On the Genesis of the Aesthetic Categories"* by J. H. Tufts, *Decennial Publications of the University of Chicago,* Volume III.

life of man. Those who assert that it is natural, are met by the counter-assertion that since such a view reduces the moral life to a strictly animal plane; the contention that severance of moral life from the animal involves the implication of the unnatural or supernatural character of the former is of no weight in the face of facts. This sharp disjunction falls to the ground, however, when the distinctive forms of association characteristic of the life of man in social relations are recognized, for this recognition not only admits but asserts that these relations realize new and unique qualities not manifested in the lesser areas of natural association. A generalization of what is involved in this issue is found in a theory familiar to students of the history of thought. A succession of thinkers, from Herder and Kant to Hegel, have asserted that the significance of the history of humanity is found in the struggle of man to emerge from a state in which he was wholly immersed in "nature" to a state in which "spirit" is wholly triumphant, and where triumph involves a sublimated cancellation of the physical and animal. It is submitted that whatever is empirically verifiable in such a doctrine is better stated in terms of the constant remaking of the physical environment and the living organism which occurs when the latter come within the scope of the culture carried in human society. It is a fact rather than a speculation that physical and animal nature are transformed in the process of education and of incorporation of the means and consequences of associated political, legal, religious, industrial, and scientific and artistic institutions. "Spirit" in the doctrine referred to is a transcendent and blind name for something which exhibits itself empirically as that phase of social phenomena called civilization.

The philosophic issues mentioned are cited only as illustrative specimens. They afford at most but a skeleton-

like table of contents and a highly incomplete one at that. They are given as indications of a scheme of philosophic description and interpretation that has to be rounded out and filled in in order to realize and to test what is signified by "social" as a philosophic category. It is the historic claim of philosophy that it occupies itself with the ideal of wholes and the whole. It is submitted that either the whole is manifested in concretely empirical ways, and in ways consonant with infinite variety, or else the whole is but a dialectical speculation. I do not say that the social as we know it *is* the whole, but I do emphatically suggest that it is the widest and richest manifestation of the whole accessible to our observation. As such it is at least the proper point of departure for any more imaginative construings of the whole one may wish to undertake. And in any case it furnishes the terms in which any consistent *empirical* philosophy must speak. Only by whole-hearted adoption of it as a ranking fact and idea can empirical philosophy come into its own, and escape the impotency and one-sidedness which has dogged the traditional sensationalistic empiricism. The commitment of Lockean empiricism to a doctrine that ignored the associative property of all things experienced is the source of that particularistic nominalism whose goal is solipsistic scepticism. In consequence empiricism ceased to be empirical and became a dialectic construction of the implications of absolute particularism. By rebound, it induced recourse to principles of connection extraneously supplied, whether by "synthetic action of thought" or by eternal essences. In the end, these systems rise or fall with the truth of the empirical particularism against which they have reacted. Thus the social as a category is as important in the critical evaluation of recent systems of thought as it is in direct application to problems of matter, life and mind.

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THE CHARACTER OF REALITY

1. Man's experience declares itself to be, at bottom, his search for Reality. In endlessly diverse ways and under manifold forms he pursues the real; consciously or unconsciously, explicitly or implicitly, it is the real that in the end constitutes the object of his endeavor. It is not quite accurate to say that his first attempts are undertaken unconsciously, while his later are largely deliberate. To some degree this is undeniable; but it is truer that at any moment, and at any stage in the mind's progress, what has hitherto been implicit may become plainly explicit by being made the individual's clearly recognised goal. This constitutes the substance of even the savage's crudest superstitions, just as it does of the child's systematic activity in play. For the extreme simplicity of both of these modes of self-expression must not blind us to the fact that one is the root of all the highest forms of religion, and the other of the most intricate and strenuous games. Whatever names may be given to it therefore—the object of desire, source of satisfaction, content of knowledge, *summum bonum,* or what not—are only varying expressions for one and the same ultimate end—Reality.

It may be objected that widely differing schools of thought have repeatedly maintained that Reality lies ever beyond human attainment—that our experience, in other

words, remains prisoned within the sphere of the unreal, as helplessly as the souls in the Inferno were excluded from all hope of Paradise. The world with which we are in immediate contact is thus contrasted with, or (still worse) severed from, the Absolute, the Unknowable, transcendent Deity or the unknown God. Reality then becomes that ever elusive substance or thing-in-itself which undoubtedly exists, but only as impenetrably veiled by its own attributes, so that mind confronts merely the phenomenal while the noumenal escapes it:—the standpoint of probably the majority of scientists.

Yet even under these conditions, however desperate they may become, it is plainly the real that constitutes the *ultimate* standard of reference, although it is supposed to be described in purely negative terms. If (for example) instead of the grandiloquent "unknowable" we use the more commonplace "not knowable," then it is just the contents of actual knowledge (whatever these may be) that form one of the essential terms of the fundamental contrast, apart from which it becomes meaningless. Similarly the very transcendence of the Absolute, or of Deity or Substance, forms the basis of our estimate of the phenomenal as such, either in the sense that the phenomenal is the manifestation of these transcendent entities, or (in the reverse direction) that whatever its characters are, they are precisely *not* the characters of Reality. In some guise or other then, the concept of Reality finally dominates the situation. Just as when we turn away from the sun, our shadow springs from its own light, so scepticism and agnosticism always indirectly involve that Reality which they explicitly seek to deny.

But negative philosophic and religious attitudes that are so persistent and deeply rooted in human nature must unquestionably possess some basis within experience it-

self; and what this is it is not difficult to discern. For they rest, at bottom, on the repeated *failure* which has attended man's age-long search for the real—on the vanity of his highest ideals which, as soon as they are attained, prove to be only Dead Sea fruits. Knowledge, beauty, happiness—each alike too often yields a painfully temporary satisfaction; and the inevitable result is the familiar conviction that Reality, from its very nature, will always elude our pursuit. This belief has been given definite philosophic form in many ways. In ancient Greek thought the eternal flux and the chaotic dance of atoms express the same fundamental standpoint as does the mystic "substance" of medieval philosophy, and Bergson's insistence that the character of Reality can never be apprehended by any intellectual processes, but only by an "intuition" whose mode of operation has always seemed to me to be inexplicable.[1]

All such negative attitudes therefore, whether they point on the one hand to a transcendence which raises the real altogether beyond our reach, or on the other to an agnosticism which severs human experience from Reality, appear at first sight to find an unquestionable justification in the very content of that experience itself. Even when Mr. Bradley maintains that Reality is a harmonious experience, it still remains incomprehensible and therefore transcendent, since this is all that we can say about it. How its eternal harmony is sustained—how those contradictions which seem to us insurmountable, because they are inherent in the constitution of everything, are ultimately removed—this the very conditions of knowledge will always prevent our understanding. For such comprehension would itself constitute that absolute experience which lies beyond the range of all finite mind, and so

[1] *Cf.* "The Failure of Bergsonism," *The Monist,* Vol. xxxiii, 1923, pp. 219-239.

would add still another insuperable paradox to those already existing, by demanding that the finite should become infinite. "We cannot possibly construe such an experience to ourselves. We cannot imagine how in detail its outline is filled up. . . . Truth, when made adequate to Reality, would be so supplemented as to have become something else—something other than truth, and something for us unattainable."[2]

2. But while all these facts can not be denied, they may still be given a totally different interpretation. For it has never been sufficiently recognised that there are two possible types of transcendence, only one of which generally receives consideration. Transcendence then may consist, not as is generally supposed in opposition and absolute severance, but on the other hand in greater fullness, in richer abundance, or as a far higher level of something that in itself is already quite familiar or even commonplace. It is thus quite legitimate to say that a multi-millionaire's wealth transcends my own limited means, since it will always defy my powers of attainment. It is useless to say that if I had different abilities, I too might become a millionaire. For this is to require an altogether inadmissible change in the conditions of the actual situation. It is like arguing that if a jellyfish possessed a certain type of human mind it could understand the binomial theorem; which is the same as saying (in more general terms) that if the finite, *per impossibile*, became infinite, it could comprehend the Absolute. The ruling conditions plainly exclude these suggestions in advance, and render them therefore illogical; while in other respects it is similarly true that Einstein's knowledge of mathematics transcends my own, just as the goodness of a saint transcends my own moral achievements. In the

[2] Bradley, F. H., *Appearance and Reality*, pp. 183, 548.

opposite direction ordinary human knowledge and emotion and volition not merely exceed the mental capacities of a dog, and much more of an amoeba, but literally transcend these because, while amoeba and dog remain what they are, they are eternally excluded from spheres which to ourselves are (as I have already observed) "familiar and commonplace." So that if—again *per impossibile*—two amoebae could discuss the problem, they would quite naturally conclude that man's experience was transcendent, not in the sense that it was far richer than theirs but was absolutely severed from their own.

And yet they would be completely wrong; not however in their description of the facts but in their interpretation. For while, as I have just insisted, there undeniably exists a literal transcendence here, still this is quite consistent both with continuity and (to an important degree) with positive identity. This is plainly implied by the principle of evolution, whatever specific form it may assume. In its earlier phases, as is well-known, unimpaired continuity of development was deemed to be essential; and it may readily be conceded that this standpoint unduly simplified the entire problem. But even the weightiest insistence on the more recent aspect of "emergence" leaves the evolutionary process intact; it still remains, that is to say, emergent or creative *evolution*. Underlying, and indeed originating, every advance in emergence there exists a continuity which is, however, never superficial, but on the contrary so deeply seated that it eludes all current methods of investigation. But the earlier history of science should be amply sufficient to warn us against too lightly assuming that, because it cannot yet be discerned, it is therefore nonexistent; while, still further, so fundamental a continuity must imply in the end some measure of identity between even the most contrasted forms of

being.[3] Examples of this truth are plentiful. The transformation of all the diverse forms of physical energy one into the other; the fact that the widely different atoms of the chemical elements are all "variations" on the same electronic "theme;" the inherence of time and space within one incalculably vast continuum; the recent suggestion that matter itself is uninterruptedly being annihilated and thus converted into stellar radiation, which again, in some as yet unknown way, may be recast into the material form: all combine with many more familiar facts concerning life and mind to show that a profound and far-reaching unity holds within its grasp all the protean types of Reality.

3. And as in the realm of existence, so it is in the sphere of thought. The universality of natural law is becoming ever more clearly manifest. All the far scattered millions of stars follow the same path of agelong evolution, performing their stately maneuvres like soldiers in a single well drilled army and radiating ceaseless energy signals, as it were, across the fathomless depths of space. This macrocosm is reflected in the microcosm; for every atom is a solar system in miniature, the central nuclear sun controlling its satellite electrons. But law is not only universal in this general sense; the same principle holds true in two more specific ways. In the first place the reign of law involves the operation of dynamic mechanisms; and this again (in the second place) results in the steady expansion of the application of mathematical methods and formulae, both to express the changing phenomena and to solve the inexhaustible series of problems which confront scientific investigation.

That the material universe is thoroughly mechanical, both on its largest scale and its infinitesimal proportions,

[3] *Cf.* Professor Lloyd Morgan:—"through emergence there is progress in continuity." *Emergent Evolution,* p. 5.

is today as commonplace a principle as was the ancient belief that stars and streams were controlled by their respective gods. It is still debated, however, whether these physical mechanisms underlie the processes of life; but on this point, in my own opinion, all forms of modern vitalism which categorically deny the sufficiency of mechanical explanations occupy exactly the same treacherous standpoint as did nineteenth century theology in its retreat before the establishment of evolution. The steady advance of biochemical and physiological discovery compels vitalists to abandon one position after another, and to seek refuge in theories which steadily become more and more vague and unscientific—defects which any philosophic merits they may claim do little to remove. The phenomena of heredity and sex, together with the most delicate metabolic interchanges, more and more manifest themselves as extremely intricate chemical reactions, that are most delicately coordinated in the biological interests of the organism and species. Similarly, throughout the spheres of mind and of society respectively, precise interrelations between the various factors are proving to be the indispensable conditions of efficiency and progress.

It is perfectly natural, at the same time, that this insistence upon the universality of mechanism should arouse strenuous opposition; and for this there are two good reasons. The first is the suspicion that an undue simplicity is being introduced into the nature of things; while the second is the belief that mechanism inevitably substitutes fatalism for freedom; and with this come spiritual lassitude and despair. But despite the soundness of the instincts which prompt them, both these objections are in fact altogether groundless. For I have already insisted on the unexpected, and indeed almost incalculable, complexity of the phenomena which current research continues to re-

veal. Not only throughout the realms of life and of mind, but equally within matter itself, intricacy of structure and delicacy of interaction are indissolubly conjoined; it is in truth precisely the intimate fusion of these two attributes that renders the advance of thought so arduous, yet at the same time so triumphant.

It is equally mistaken to suppose that the category of mechanism is opposed to that of organism. Each of these, on the contrary, necessarily involves the other, so that they form two inseparable aspects of one and the same situation, like *e. g.* the convexity and concavity of any given curve. For while either of these may be isolated and independently investigated, still it is plain that they must be associated if our geometry is to be at all complete. In exactly the same way it is impossible to separate one mechanical detail permanently from another; this can be done only temporarily, during the earliest and simplest stages of investigation. Further research however always proves these details to be dynamically interconnected, in such a way as to constitute the single unities or wholes which we call "organisms." The meaning of this term, unfortunately, is far too narrow. It has quite naturally been first of all applied to living things, simply because they most plainly exhibit the essential characteristics of "organisms;" their constitutions and their life-histories both alike being fairly easily brought within the scope of ordinary observation. But animals and plants are, of course, not the only "organisms" in the universe; for nations on the one hand and solar, stellar and atomic systems on the other, all equally deserve to be called "organisms," since they also have structures and histories which are, however, either so enormous or so minute that only the most painstaking research can discern their detailed characters.

The principle of mechanism therefore is thoroughly antagonistic to any radical simplicity; and it is equally foreign to all belief in fatalism. In this respect (once again) the crucial issue is one of relative complexity; and since I have previously dealt with "The Problem of Freedom" in an earlier volume of this Journal,[4] it must here be sufficient to repeat that the more intricate and delicately adjusted any mechanism or organism becomes, the freer it also becomes; and this, still further, not by any accident or miracle but naturally and logically. It is quite unnecessary, therefore, to appeal here to the influence of contingency or "indetermination" throughout certain regions of existence. For not only is actual contingency increasingly disproved by every fresh discovery, so that its presence is nothing more than the reflection of human ignorance, but the principle really involves the very negation of true freedom. If new events and processes are not systematically connected with all other events in such a way that their mutual coordination becomes possible—and this is all that Determinism and Mechanism ultimately mean—then there plainly exists some degree at least of absolute chaos in the universe. If, again, this "contingent" element is sufficiently important to form the substance of a philosophic principle, this chaos cannot be merely negligible, but must, on the contrary, operate on a highly extensive scale; nor can we have any guarantee that it may not finally swamp all order and law in some irremediable catastrophe. To maintain the contrary—to believe (that is to say) that the contingent is not after all actually chaotic—is plainly to believe that it is in the end amenable to some controlling law so complex and profound that we can not as yet discern it; and it is altogether erroneous to deny this in the interests of spiritual freedom

[4] Vol. xxxiii, pp. 321-343. I need add only that freedom is inseparable from novelty, uniqueness and creation.

or genius. For genius is never lawless, as is so often foolishly supposed. Rather does it always work in obedience to the highest laws of its own sphere—of literature, art or science as the case may be—thus expanding earlier principles by revealing new ones still more rigorous than their predecessors. If then we choose to regard the Universe as the manifestation of Spirit or Deity, this principle must be infinitely expanded; which means that not contingency, but order or reason, lies at the heart of things.

4. Reverting now to the second essential feature mentioned at the beginning of the previous section, it must seem at first sight a far cry from Deity to mathematics; and yet we may recall the ancient Pythagorean maxim that the secret of existence is to be found in Number. Grotesque as were many of the later forms assumed by this belief, it nevertheless constitutes a remarkable anticipation of the vast range and applicability of the mathematics of today, and still more of tomorrow. It is again unfortunate that the very symbols and formulae of the science make it appear to be only a game, even though it is a mysterious and magical game. And yet very little consideration shows that practically all modern engineering and invention—which means in effect the entire material basis of civilisation—would be quite impossible apart from highly abstruse theoretical calculations. This is still truer as regards the progress of all the physical, and equally of many of the biological and even the social, sciences, as is at once evident when we recall the increasing importance of statistical and correlation methods. Now so long as we continue to regard mathematics with the same suspicion that our ancestors entertained towards witchcraft, the whole situation will be profoundly misinterpreted. The secret of the mathematician's ability is

really quite simple; it is only the perfectly natural outcome of what has just been referred to—that is of the presence of system and of law throughout the universe. For it follows from this that it is always possible, to some degree at least, to dissect out the elemental factors in such a way as to exhibit their exact interrelations with an ever fuller precision of detail; and it is upon this task that the mathematician concentrates. He pursues (in other words) the analysis of phenomena to its utmost limits, never pausing until he has expressed every detail in all its possible, or even impossible, aspects. Perhaps the most obvious, and at the same time most striking, example of this is the success with which the entire material universe may theoretically be mapped out, by means of the proper coordinates, so as to obtain a formula which, in spite of its simplicity, "holds at every point of the universe, that is to say at every point of space at any moment of time."[5] It is at once plain what an enormous power must be conferred by such an intellectual weapon; and although its untold potentialities lie hidden in the future, still we may be sure that it is an "open sesame" which will unlock many of the closed doors of Reality. Equally obvious must be its remoteness from ordinary terminology, since this is adapted to deal only with the surface of things, sufficiently to enable everyday intercourse to proceed.

But in thus emphasizing the essentially analytical aspects of mathematics an equally important complementary truth is too often forgotten. For in dissecting out the diverse details of the structure of Reality, we at the same time discover the exact way in which these are connected together among themselves; unless indeed this result is attained the analysis has itself been wrongly carried out, no matter how many separate factors may have been isolated.

[5] Borel, *Space and Time*, p. 170.

This is clear if we consider an expert mechanic dismantling a new type of motor engine; for he not only takes it to pieces, as indeed any clever boy may do, but he gains at the same time an insight into the general principles of its construction. Of course he must *begin* by taking it to pieces, just as the chemist, the biologist, but above all the mathematician, must begin; and if we are sufficiently foolish we can describe this as sheer destruction. But the point is that neither the mechanic nor the scientist ever remains content with analysis alone. He always regards this as only preliminary to a new synthesis which results in the rebuilding of the machine, or the universe, as the case may be; only this rebuilding is now carried out with an ever profounder understanding and clearer vision.

It must follow from all this that the mathematician holds the key to a very large proportion of the future expansion of knowledge; he is, as it were, the pioneer upon whom almost the entire advance depends, as has so often been proved by the history of science itself. "It is a characteristic rôle of mathematicians," observes Borel, "thus to create abstract theories which seem mere pretty ideas, but which afterwards turn out to be of value for immediate and urgent needs."[6] Hence arises that rapidly widening applicability of mathematics to so many unexpected phases of modern experience; and if we choose to describe this by saying that everything is being "reduced to abstract mathematical terms" we must at once add that the so-called "reduction" is the indispensable preliminary to all sound and permanent construction, so that the abstract is always the avenue to the concrete. But this, again, must not be taken to mean that mathematical truth is either exhaustive or exclusive; it must continually be supplemented from other sources.

[6] *Cf.* his interesting examples, *op. cit.*, p. 184.

5. Thus far we have discerned, as characteristics of reality, unbroken continuity, expanding diversity, steadily advancing complexity and universal dynamic activity. This means that the later types of being are more delicately and intricately organised than their predecessors; and it must now be observed further that the form of their interaction acquires a progressively different character. For it ceases to be mere *unconscious responsiveness* to external stimuli, and becomes slowly transformed into a more and more fully *conscious dominance*. This is what is really meant by being a "person" or "self"—the possession of rational consciousness which expresses itself by acquiring a constantly increasing mastery over its environment. Responsive interaction must of course persist; the essential point is that this now assumes the new type of dominance; and dominance, again, is plainly only another name for freedom, since the less subordinate we are the freer we are.

These conclusions express the true significance of the familiar facts of the course of evolution from matter to mind—from the physical to the rational. Reason enables the self to know and understand the environing universe to which it must respond in order to exist, its knowledge advancing by means of that alternate analysis and resynthesis which have already been discussed. But this implies, still further, that the self's responses arise more and more fully from within its own nature and experience, and are therefore free or spontaneous, instead of being dictated from without. Knowledge thus ceases to be mere passive contemplation, and must now be regarded as that intellectual mastery over the nature of existence which mind increasingly attains, as is expressed in the familiar phrases "grasp of a situation" or of a problem. This is much more literally true than is generally imagined; for the higher

forms of selfhood do actually "grasp" Reality and subordinate it to their specific purposes.

This plainly suggests that it is in the nature of selfhood that we must seek the clue to the future progress of evolution. Here we must of course face the familiar objections based on the defectiveness and limitation of human personality, together with the formally philosophic criticisms of the self advanced in Mr. Bradley's *Appearance and Reality*. I have not the least desire to question these facts in themselves; nevertheless I should insist that they have hitherto been given altogether too narrow—and therefore in the end a false—interpretation. If, 300 years ago, some Columbus had uprooted all the saplings in California because they yielded to every breeze, where would be the forest giants of today? And equally foolish would it have been to criticise the childish feebleness of the infant Shakespeare or Newton or Beethoven. In all such instances it is surely obvious that we must look not to the present but to the future—not to the restricted actuality of today but to the unsuspected potentiality of tomorrow. Just so with personality, even in its "human, all too human" form. For finite selves, in the ageless course of evolution, have as it were "crystallised out" within the universe, just as actual crystals do from the liquid magma. Only selves are living, psychical and spiritual "crystals," in which an unlimited plasticity has replaced the rigidity characterising their physical prototypes. It is precisely this high plasticity of mental organisation which enables the babe to be transformed into the genius; and, similarly, the race of today into the super-race of the distant future.

Even in practical affairs this is becoming plainly evident. Man is subordinating the physical world to his social ends on an ever larger and more successful scale, cutting a Panama Canal across a continent and flashing his

messages through the immaterial ether—achievements at which posterity will smile with the same superiority that we feel towards the dark ages. In pure knowledge, again, the human mind is proving itself adequate to vast realms of existence. The Theory of Relativity, *e. g.,* illuminates the structure of the entire material universe, just as the Principle of Evolution concerns the whole of Life and Mind; and what the future holds in these respects is quite incalculable. Similarly many would maintain that in Art the aesthetic consciousness penetrates to something that is inherent in the very nature of reality, to which we can attain in no other way; and so perhaps in conduct and in religion.

Along all these widely diverse paths, then, selfhood advances to continuously higher levels without, however, ceasing to be selfhood. Slowly it becomes a more and more powerfully dominating centre within the whole, even though it must always remain finite; and this suggests the possibility (to call it nothing more) that the Supreme Real within the Universe is a self not finite but infinite. Thus we are enabled to give much more definite significance to the "Substance" of Spinoza's philosophy and the "Spirit" of Hegel's thought; a truth that is perhaps best expressed in the poet's lines—

> So, through the thunder comes a human voice
> Saying, "O heart I made, a heart beats here.
> Face, my hands fashioned, see it in myself."

J. E. Turner.

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AN INTERNAL INCONSISTENCY IN ARISTOTELIAN LOGIC

NOTWITHSTANDING the attention which has been given during the last fifty years to the modern logic there is still considerable disagreement concerning its relation to the traditional logic of Aristotle. Opinions upon the relative merits of the two systems vary from those expressed by logicians who would relegate the traditional logic to the scrap-heap to those voiced by others who, in the exuberance of a reaction to this tendency, would regard the logic of classes as faulty and inferior. Thus one of the more recent defenders of the traditional logic writes, "In answer to this contention (that "the conception of class and of membership in a class is a decided improvement over the Aristotelian logic") it is well to point out that the conception of class is not only highly ambiguous but positively misleading. . . .".[1] The usual supposition is that Aristotelian logic within the region to which it limits itself, is neither ambiguous nor inconsistent.

This has been the usual conception of Aristotelian logic held even by those who have criticized it most severely. Regardless of whether one were in favor of, or opposed to, the retention of this science, it has been assumed, so far as the writer is aware, that given its fundamental concepts and operations it is, within the region to which it limits itself, a self-consistent system. Just as Newtonian mechanics is regarded as being self-consistent but super-

[1]D. S. Robinson, *The Principles of Reasoning,* Appleton, 1924.

seded by the theory of relativity because the latter has the greater deductive fertility which will enable it to bring within one synthesis, not only the region of fact treated by Newton but also wider regions as well, so the logic of Aristotle has been regarded as a self-consistent system superseded by the logic of classes because of the wider range of application attained by the latter science. Within the Aristotelian system it has been supposed that there are no contradictions. Stated in terms of propositions this means that if one were to take any A, E, I or O proposition and infer from it by successive steps the propositions permitted according to the rules of mediate or immediate inference one would never in any case gain as a conclusion a proposition contradicting either the original proposition or a proposition consistent with it.

It was with this point of view that the writer attempted to teach both the traditional logic and the modern Boolean algebra or logic of classes. In order to avoid the confusion which would result from the use of two different systems of Euler's circles it seemed best for pedagogical reasons to use, for the Aristotelian as well as the Boolean science, the graphical symbolism to be used in the logic of classes. When this graphical method was applied to the familiar propositions concerning "just and expedient acts" given on page 303 of Jevons' *Lessons in Logic,* an unexpected difference appeared between the propositions which could be inferred according to the geometric symbolism and those which followed according to the accepted rules of inference of Aristotelian logic. A study of the problem revealed in that fact led to the conclusion about to be presented. This conclusion is very interesting and is of special significance in helping us to come to a better understanding concerning the relation between the Aristotelian and the modern logic. If the analysis which is presented

is correct, it follows that there is a fundamental contradiction in Aristotelian logic which is escaped in the logic of classes and which can be removed from the Aristotelian science only by so remodeling it at its very foundations that it becomes changed into the logic of classes.

The Internal Inconsistency of Aristotelian Logic

The following analysis will attempt to prove that there is an inconsistency in Aristotelian logic, by taking a given A proposition, which according to certain Aristotelian rules is entirely consistent with a given second proposition, and inferring from it, by equally 'valid' Aristotelian rules, the contradiction of said second proposition.

Let us consider, from the list of fourteen propositions concerning just and expedient acts given by Jevons on page 303 in *Lessons in Logic,* numbers 1, 4 and 5, and to Jevons' list let us add another which we may designate by the number 15. The four propositions are the following:

1. All just acts are expedient acts.
4. All inexpedient acts are unjust.
5. Some unjust acts are inexpedient.
15. All unjust acts are expedient acts.

It can be proved according to accepted rules of Aristotelian logic that propositions 1 and 15 are both consistent and contradictory.

Propositions 1 and 15 are consistent. Since proposition 1 is an A proposition its predicate is undistributed and therefore the part of the predicate to which no reference is made in proposition 1 may contain the class of unjust acts referred to in the subject of proposition 15. Thus both propositions may be true at the same time. They are, therefore, consistent according to those rules of Aristotelian logic which govern the distribution of terms.

But according to the accepted Aristotelian rules, it can be shown that propositions 1 and 15 contradict each other.

Proposition 1 implies proposition 4 according to the rule of conversion by contraposition. Proposition 4 implies proposition 5 according to the rule of conversion by limitation. Therefore proposition 1 implies proposition 5, according to the rules of the syllogism. But proposition 5 contradicts proposition 15. By obversion proposition 5 becomes "Some unjust acts are not expedient." Since this is the corresponding O form of proposition 15 which is an A, it follows according to the rules governing the opposition of propositions that proposition 5 contradicts proposition 15. But, since proposition 1 implies proposition 5, and 5 contradicts proposition 15, it follows according to the rules of the syllogism that proposition 1 implies the contradiction of proposition 15.

Since by one set of rules propositions 1 and 15 are consistent and by another equally acceptable set of rules they are contradictory, the conclusion is inescapable that Aristotelian logic is an internally inconsistent system.

At first one may be inclined to think that in bringing in proposition 15 which is similar to proposition 1, except that its subject is the negate of the subject in proposition 1, an implicit assumption of Aristotelian logic is violated. That this is not the case, and is irrelevant to our consideration even if it were true, will appear when we determine the cause of the fallacy, for it turns out that the fallacy centers in proposition 4 and not in proposition 15. The only advantage gained by introducing proposition 15 is that it aids in bringing out a fallacy that has been committed by Aristotelians thousands of times in inferring proposition 5 from proposition 1 on purely formal grounds. Moreover, the slightest consideration of other examples shows that we do not imply the contradiction of a proposition having the form of proposition 15 when we assert a proposition having the form of proposition 1. Consider the following propositions:

1′. All organic systems are mechanical systems.

15′. All non-organic systems are mechanical systems.

Certainly there is no implicit rule in Aristotelian logic which would necessitate the rejection of proposition 15′ as an Aristotelian proposition. Furthermore no one would ever assert that the affirmation of the statement that living organisms are mechanical systems would necessitate that one deny the statement that stones and planets and other inorganic systems are mechanical systems. Nevertheless it can be shown that by applying to these propositions no other rules than those in good standing in Aristotelian logic, they become contradictory. No statement to the effect that we have introduced in proposition 15 an unacceptable Aristotelian proposition will enable one to escape the conclusion that the existing principles of Aristotelian logic permit one to prove that a proposition can be both consistent with and the contradictory of a given second proposition.

The Cause of the Inconsistency

By the use of the graphical symbolism we can keep all four propositions which we have used in our proof before our attention at once and also escape any possibility of ambiguity in our interpretation of them. In the graphs which follow, the intersecting circles represent two classes which correspond to the subject and predicate of the Aristotelian proposition. (See figures 1 and 2). These circles are placed within a square which represents the universe of discourse or the largest class under consideration in the propositions in question. The use of the square is essential in the treatment of propositions involving negates such as the propositions which we have selected from Jevons' list, since the negates refer to the region outside the circles. This symbolism enables us to designate,

in a way that the mind can immediately grasp, the possible

ARISTOTELIAN

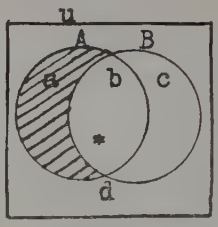


Fig. 1.*

BOOLEAN

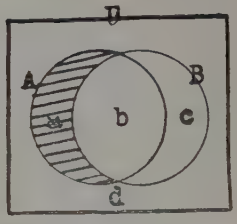


Fig. 2.

subclasses resulting from the relation of two terms or classes to form a proposition. The number of sub-classes resulting will always be two to the nth power where n represents the number of classes related. Thus, in the traditional Aristotelian proposition the joining of the subject and the predicate by the copula is represented, according to our rule, by the intersection of two circles which give rise to two times two, or four, sub-classes. These sub-classes are designated in the accompanying graphs (Fig. 1, ff.) by the letters a, b, c, and d. The difference between the four types of propositions will be indicated on the graphs by signs in the sub-sections to which the propositions in question refer. Any proposition makes some statement about certain of these sub-classes. This statement will assert with reference to any sub-class to which it refers, either that this sub-class has one or more members or that it is empty. The assertion of emptiness will be designated graphically by shading the sub-section in question; the assertion of the presence of members by a star. The absence from any sub-class of either a shading or a star indicates that the proposition says nothing about it, and thus indicates that a second proposition affirming something of said sub-section cannot be inferred from the proposition in

* I am indebted to Professor H. M. Sheffer for this method of graphing propositions.

question. If two propositions contradict each other they will necessitate the placing of opposite signs in the same sub-section; that is, one will affirm that the sub-section has members while the other affirms that it is empty. If two propositions co-imply each other they will say the same thing about every sub-section. If one proposition implies a second proposition but the second does not imply the first, the first will assert about every section, everything that is asserted by the second and in addition something about one or more sections which is not asserted by the second.

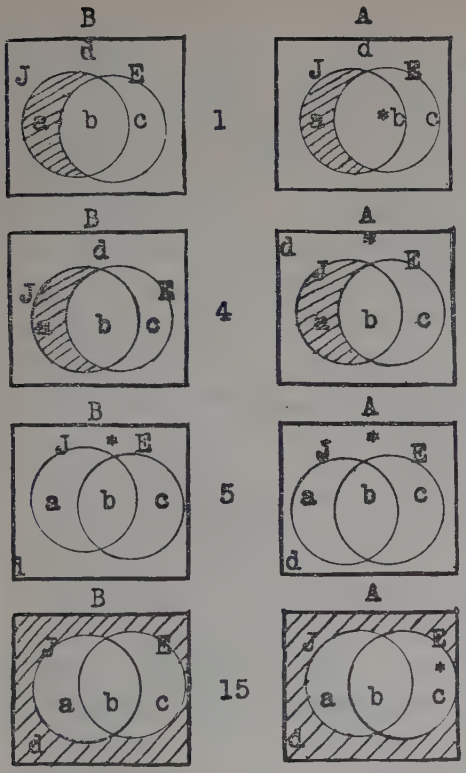
When one indicates graphically the logical meaning of a proposition of the form "All A are B" one finds that there are two possible meanings which this statement may take. We may call them the "wider" versus the "narrower", or the "Aristotelian" versus the "Boolean" respectively. The wider Aristotelian meaning is "All A are B and there are A's." It asserts not merely that there are no A's outside of B but also that there are A's. Represented graphically this means that sub-section a is empty and that sub-section b has members. (See Figure 1 in which a is shaded and b contains a star.) This is the meaning which the universal proposition in Aristotelian logic is always supposed to take. This fact is expressed in the text-books by the statement, "The universal proposition always implies existence." In terms of the logic of classes it means that Aristotelian logic does not work with the notion of the "empty class."

The other, narrower Boolean interpretation of the A proposition is "All A are B and there may or may not be A's." It asserts that sub-section a has no members but says nothing about sub-section b. (Figure 2.) The merit of this interpretation used in the logic of classes is twofold. Firstly, when a proposition is found to be subject to

two interpretations one escapes all danger of fallacy and gains in generality by taking the minimum meaning as fundamental. When the maximal meaning is used an additional clause can be added. If one takes the maximal meaning as fundamental and never analyzes below it, one's system is cut off from the possibility of handling propositions of the minimum type. Secondly, the notion of the minimum class is as sound a notion as that of a class with members. In fact it is essential, as this analysis will prove, if one's logic is to apply not merely to inferences in mathematics but even to the ordinary inferences treated in the classical text-books on Aristotelian logic.

If we are clear concerning the difference between the interpretation of the universal proposition in the logic of classes and in the logic of propositions of Aristotle, we are prepared to proceed to an analysis of the problem which confronts us.

The graphs which follow give both interpretations for each of the four propositions concerning just and expedient acts which we have selected for consideration. The Boolean interpretation is designated by the letter B following the number of the proposition in question, the Aristotelian by the letter A. The B interpretations are given in the left, the A in the right column of graphs. Since our aim is to determine the relation of propositions 4, 5 and 15 to proposition 1, all propositions are graphed in terms of the class "just acts" and the class "expedient acts" referred to in proposition 1 and not in terms of the negates referred to in the other propositions. This is indicated on the graphs by the fact that the two intersecting circles in each graph are marked by the letters J and E standing for the class of "just acts" and the class of "expedient acts" respectively.



1 All just acts are expedient and—

B—there may or may not be just acts.

A—there are just acts.

4 All inexpedient acts are unjust and—

B—there may or may not be inexpedient acts.

A—there are inexpedient acts.

5 Some unjust acts are inexpedient and—

B—there are unjust acts.

A—there are unjust acts.

15 All unjust acts are expedient and—

B—there may or may not be unjust acts.

A—there are unjust acts.

Consider with reference to these graphs the proof beginning on page 3 of this article with the statement, "Propositions 1 and 15 are consistent. The graphs 1A and 15A indicate this to be valid since both propositions refer to different sections. Proposition 1A affirms merely that section a is empty and that b has members and, therefore, does not contradict the affirmation of proposition 15A to the effect that d is empty and that c has members. A similar consideration of graphs 1B and 15B will indicate also that these propositions are consistent. (Rules for contradiction, page 6 of this article). Hence, it follows that under either interpretation of this article the universal proposition, propositions 1 and 15 are consistent.

Certain interesting facts appear when we trace, by means of the graphs, the argument, valid according to Aristotelian rules, that these two propositions are contradictory. Consider the first step of the argument which we summarized in the statement, "Proposition 1 implies proposition 4." According to the rule of conversion by contraposition these two propositions (1 and 4) co-imply each other. But under which interpretation of the A proposition does this rule of conversion by contraposition hold? The graphs indicate that it is only for the Boolean interpretation since it is only in graphs 1B and 4B that the same sub-sections (in this instance the sub-section a) are referred to in the same way. Proposition 4A can never be inferred from proposition 1A since 4A asserts that section d has members whereas 1A asserts nothing with reference to section d. It follows therefore that the only circumstance under which these two universal affirmative propositions can be said to co-imply each other is when both take the narrower Boolean meaning. Consequently, every time that the Aristotelian logician has used the rule of conversion by contraposition to infer a proposition of the form of 4 from another of the form of 1 he has denied his fundamental principle that the A proposition always implies existence when used in Aristotelian logic. It is evident therefore that when we assert, according to the rule of conversion by contraposition, that proposition 1 implies proposition 4 we mean that it implies the proposition "All inexpedient acts are unjust and there may or may not be inexpedient acts;" we are asserting that section a is empty and not that section d has members. This remains true even if proposition 1 is interpreted in its wider meaning, as a consideration of graphs 1A, 4B and 4A will indicate.

A consideration of the second step in the argument to the conclusion that propositions 1 and 15 are contradictory,

raises the question concerning which interpretation of proposition 4 we, of necessity, presuppose when we assert that proposition 4 implies proposition 5. The graphs 4B, 4A and 5A indicate very clearly, since proposition 5 on either interpretation asserts section d to have members, that proposition 5 can be inferred only from the wider Aristotelian meaning of proposition 4, given in graph 4A. Since 4B asserts nothing about section d it follows that proposition 5 which refers only to section d cannot be inferred from it. Therefore, when by appeal to the rule of conversion by limitation we affirm that the proposition (4) "All inexpedient acts are unjust" implies proposition (5) "Some unjust acts are inexpedient," we mean by proposition 4 the unambiguous proposition (4A) "All inexpedient acts are unjust and there are inexpedient acts."

A fallacy in Aristotelian logic due to the use of the rule of conversion by contraposition along with other rules of immediate inference is now before us. When by appeal to the rule of conversion by contraposition the Aristotelian logician asserts that proposition 1 implies proposition 4 he is using proposition 4 in one sense, and when in the next step of his argument he asserts by appeal to the rule of conversion by limitation that proposition 4 implies proposition 5 he is using proposition 4 in an entirely different sense. Moreover the meaning of proposition 4 used in the second step of the argument cannot be inferred from the narrower meaning of the proposition used in the first step. Since the proposition which implies proposition 5 is an entirely different one from the proposition which is implied by proposition 1, and cannot be inferred from this different proposition, the conclusion that proposition 1 implies proposition 5 is invalid. By neither interpretation of propositions can proposition 5 be inferred from proposition 1 on purely formal grounds. Throughout history logicians who

have combined the rule of conversion by contraposition with the rule of conversion by limitation to assert that since proposition 1 implies proposition 4 and 4 implies 5, therefore the proposition (1) "All just acts are expedient acts" implies the proposition (5) "Some unjust acts are inexpedient" have been guilty of the fallacy of "four terms" or "ambiguous middle," since proposition 4 which is the middle term in this syllogistic inference is used in two different senses.

Since the proposition 4 which implies and is implied by proposition 1 does not imply the proposition 5 which contradicts proposition 15, it follows that proposition 1 contradicts proposition 15 by no valid rules of inference.

Thus the cause of the inconsistency in Aristotelian logic is revealed. By no process of valid inference can proposition 1 imply the falsity of proposition 15. It does so in Aristotelian logic because the method of conversion by contraposition is inconsistent with that logic as the meaning of existence is usually defined in that science.

Aristotelian logic can remove the contradiction and escape the situation in which its rules brand as valid an inference which is obviously false, by admitting within its science the use of the minimum meaning of the universal proposition. Once this happens it ceases to be Aristotelian in character. The rule that the universal proposition always implies a particular will no longer hold. Neither will certain "valid" moods of the syllogism continue to be valid. The notion of the empty class will be admitted for it is involved in the minimum meaning of the universal proposition. In short, one will have a theory of propositions which is that of the logic of classes.

The cause of the internal inconsistency in Aristotelian logic is *evident*. There is an inescapable ambiguity in the universal proposition due to the fact that its minimum

meaning is used in the method of conversion by contraposition while in the same syllogistic inference its maximal meaning appears in other methods of immediate inference without any attempt being made to distinguish between the two meanings. This distinction would be unnecessary were the fundamental principle of the logic adhered to in the operations in use in the science. The point is, however, that Aristotelians can succeed in making their science suffice, even for the ordinary propositions appearing in the classical textbooks, only by introducing the method of conversion by contraposition and thereby denying their fundamental thesis concerning the existence of individuals. Thus the cause of the inconsistency is not merely that Aristotelians have failed to distinguish between the two meanings of the A proposition but also that the founders of the science admitted in the rule of conversion by contraposition a method of inference that is in direct opposition to the fundamental principle upon which their science rests. The state of affairs illustrated by the propositions concerning just and expedient acts in which equally acceptable rules of the traditional logic prove that two propositions are both consistent and contradictory, is but an instance of the more fundamental contradiction existing at the very foundation of Aristotelian logic due to the fact that this science retains the principle of conversion by contraposition along with the principle that the universal proposition always implies existence.

The Relation of Aristotelian Logic to the Logic of Classes

It has been thought that the greater range of the logic of classes is of little use to any except those interested in the abstract concepts of mathematics, and that for all problems coming within the range of ordinary experience the

Aristotelian science with its principle that the universal implies existence, suffices. It is evident, however, that this contention cannot be maintained. Certainly the method of conversion by contraposition applies to propositions and inferences used in the most ordinary experiences of the average man. Since this method presupposes the narrower meaning of the universal proposition it follows that the notion of the empty class which is taken as fundamental in the logic of classes is as necessary to account for the simple inferences of the traditional textbooks as it is to include the inferences in mathematics. If Aristotelian logic is to deal without fallacy and internal contradiction with even the simplest problems which it has attempted to treat in the past it must reject its theory of the universal proposition.

This means that it must replace its fourfold division of propositions into the A, E, I, and O types by at least[2] a six-fold division into I, O and four other types representing the wider and narrower meanings of both A and E. This is to reduce or transform Aristotelian logic into the logic of classes, for the latter science rests upon this six-fold division, except that by an additional piece of analysis it has succeeded in reducing these six to two elemental types and has thereby gained a simple consistent logical system which includes in their proper relations the method of the syllogism, the method of conversion by contraposition, and the other methods of immediate inference, and nevertheless operates according to rules more simple and workable than those of the less powerful Aristotelian system.

This internal inconsistency could be escaped by Aristotelians were it possible for them to follow in practice the theory of propositions given by W. E. Johnson in his exposition of the traditional theory of immediate inference. He

[2]W. E. Johnson has worked out an eightfold division in which the distinction between the maximal and minimal meanings applies to the particulars as well as to the universals. *Logic*, Vol. I, Ch. IX.

says, "The conversions authorized on the traditional scheme derive their validity from the assumption that there are instances not only of p, but also of q and of non-p and of non-q. . . ."[3] In other words, the universal proposition in immediate inference in Aristotelian logic is always assumed to imply (in terms of our graphs) not only that section a is empty and b has members but also that sections c and d have members.

There is no doubt that if the rules of immediate inference were used with these presuppositions there would be no internal contradiction. The difficulty with this interpretation is that Aristotelians have never used the universal propositions in this way when they converted, nor can they if they desire to have their logic deal with the propositions of the traditional textbooks. No textbook in Aristotelian logic, to the writer's knowledge, ever informed the student that the rules of immediate inference did not apply to all A propositions but only to those asserting that sub-sections c and d as well as b have members. Furthermore, such an interpretation as Johnson gives would rule out, as invalid Aristotelian propositions, a large number of propositions in the traditional textbooks. Take, for example, the proposition "All metals are elements," used by Jevons in his *Lessons in Logic* in illustrating the method of conversion by contraposition. This proposition would be an invalid Aristotelian proposition on the above interpretation, since the class d including things which are non-metals and non-elements is, or at least may be, empty in the discourse in question. Furthermore, such an interpretation of the universal proposition would make immediate inference from it unnecessary. One would know so much when one asserted a universal that methods of inference enabling one to determine what it implies would

[3] *Logic*, Vol. 1, p. 139.

be entirely gratuitous. Moreover this is an entirely unjustified limitation of the method of contraposition. As the 1B and 4B graphs on page 8 of this article indicate, the method is valid when no such extensive knowledge of existence is presupposed in asserting an A proposition. This interpretation offers no means of escape from the inconsistency which we have indicated.

Aristotelians could remove the inconsistency by rejecting the method of conversion by contraposition. When one remembers, however, that this method is a deduction from the other methods of conversion and that its removal would carry with it, therefore, the removal of these other methods, this solution ceases to appeal to one as satisfactory. Moreover, such a procedure would make the science even less powerful, with reference to the range of problems which it treats, than the traditional system. There seems, therefore, to be no alternative but to reject the principle that the wider meaning of the universal is the only one admissible in Aristotelian logic and to accept the theory of propositions of the logic of classes or of one of the systems which have generalized beyond the logic of classes.

Nothing would be lost in this change except the inconsistency which we have indicated. All the valid notions of the Aristotelian science would follow as derivatives from the more fundamental concepts and principles of the new science. Only one point needs to be kept before us as a warning. We must not commit the error of thinking that, because the valid Aristotelian notions are derivatives, they are therefore insignificant. We must not forget that the principles of grammar, a considerable number of the fundamental concepts of ordinary conversation, of philosophy, and of natural science are to be understood in terms of the fundamental categories and principles of Aristotelian logic. There would be a tremendous loss in understanding were

men of the future to be trained in ignorance of this fact. The theory of relativity in natural science makes this comment especially pointed. Because of Einstein's analysis, mathematical theories of nature based upon a description of nature in terms of the logic of relations are in the ascendency. It is important to remember, however, that in the history of science and also in the minds of contemporary experimental physicists and chemists who hesitate to regard electrons and other objects as characteristics either of a continuum or of a system of relations, there is an alternative theory of nature known as the physical or mechanical theory which is based upon a description of nature in terms of the subject-predicate categories of the logic of Aristotle. Although the modern logic is indispensable in handling the mathematical theories and in no way excludes the physical or mechanical theory, the historical significance of the two-termed logic may be overlooked unless we make it a point to indicate that the Aristotelian science is an especially important derivative from the logic of classes. For this reason it seems wise to continue to teach the Arisotelian science at least sufficiently to acquaint men with its fundamental concepts and operations, although there is no alternative but to teach the consistent and more powerful logic of classes, which includes its valid elements, when we provide men with the most serviceable logic for their practical use.

There is no doubt that the historical significance of the traditional logic has caused certain logicians to hesitate to welcome wholeheartedly the modern logical systems. Some are inclined to the supposition that the gain in consistency and power which the new science gives will not make up for the significance which the Aristotelian system has by virtue of the single fact that it is ancient in origin. They regret to watch a science pass into a secondary posi-

tion which over a period of twenty-three centuries has ingrained itself into the very fibre of the thought of our civilization. What they forget, however, is that the so-called modern logic is modern only to logicians and that, so far as its fundamental concepts are concerned, it dates back to Aristotle and even to the centuries previous to Aristotle, when at least certain of its fundamental notion were first discovered in founding the science of mathematics. It also, throughout the centuries, has plowed its way into the very body of our thought and into every phase of our daily life. Analyze an equation in physics, fathom a proof in mathematics, search to their sources the problems of philosophy, or consider even the statement of your grocer when he orders his boy to bring any packet of sugar from the shelf and you will find it present. Certainly, if the desire for an understanding of the thought and language of our age indicates the necessity of an acquaintance with the concepts and logic of Aristotle, it indicates to an equal or even greater degree the necessity that we master the fundamental concepts of mathematical logic. If there is any occasion in the present situation for regret it is that these primitive ideas have not been placed at our disposal before.

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LANGUAGE AND THOUGHT

IT is an evident fact, and by no means a newly discovered one, that talking and thinking are closely related. If we go no further back than Hobbes we find the statement that "words are wise men's counters," that truth consists in the right ordering of names in our affirmations, that so-called universal ideas are but names of many particular things, and that words serve an important function as marks or notes of remembrance for thoughts. (*Leviathan*, Everyman's edition, pp. 13-16.) Hobbes even goes so far as to say that departure from ignorance to either wisdom or error is possible only through the use of words. (*Ibid.*, pp. 15-16.) During the latter part of the last century a vigorous and extensive controversy was waged, in the center of which was Max Müller with the contention registered on the title page of his *Science of Thought*—"No reason without language, no language without reason." This contention was an attempt to clarify the relation between thought and language; but it, like Hobbes' statements, assumed the existence of two separate, though correlated, factors.

More recently attempts have been made to analyze the relation between thought and language by regarding thought as a product of language or by identifying thought, in whole or in part, with language. The significance of such attempts, as well as the significance of criticisms of them, is made difficult of estimation because of the fact that

various conceptions both of thought and of language have been used. A separation and determination of the facts to be explained by the categories of thought and language seem to constitute the first step in the solution of the problem of the relation between thinking and talking.

At least four general groups of facts may be distinguished. The first three of these groups may be designated as follows: the process by which conduct or actions are modified by experience and habits are formed, the ability which men have to talk about, or think about, or refer to, absent objects, and the experience of awareness, or consciousness, or self-consciousness. The fourth group, which more or less intersects all the groups mentioned above, may be designated by saying that it consists of the facts which lead us to speak of integration or organization in conduct and of inference or logic in thought.

It is undoubtedly a fact that human beings change their reactions and build up systems of responses. In recent years a number of writers have given an account of the process of learning or adjustment in terms of the principle of the conditioned reflex or response. As stated by Bertrand Russell (*The Analysis of Mind,* pp. 86 ff.), this principle is that: "If a complex stimulus A has caused a complex reaction B in an organism, the occurrence of a part of A on a future occasion tends to cause the whole reaction B." It seems probable that a large part of the behavior of an individual can be intelligently related to his history in terms of such a description of the way in which conduct is modified. At least this description seems to be the most general one of human behavior that can be given, whether or not it has to be supplemented at various points. If we regard thinking as identical with the general process by which behavior is modified, then clearly thinking is by no

means identical with the use of language but includes language as a particular kind of behavior.

We may, however, accept this general description of the process by which behavior is modified but identify thinking with language behavior and proceed to describe language behavior. This gives us Watson's position. According to Watson,[1] the anatomical basis of language habits involves the whole body but specifically the neuro-muscular system in the head, neck and chest segments. The mere sounding of words is vocal habit; but when words are connected up with other vocal action and general bodily action we have language habit. Vocal habits do not become language habits until they become associated with arm, hand and leg activities and substitutable for them. Language habits are vocal habits plus associative connection of the word with bodily habits connected with the object for which the word stands; and early word habits are formed in the same way as other explicit habits except that imitation seems to be added to the process in the case of vocal acts. It is not necessary to assume, however, that all thought is vocal, as other actions come to be stimuli substitutable for the object seen, drawn, written or handled. Man's verbal responses are similar to the responses of a rat in a maze.

According to this way of dealing with language, language habits are built up in the same fashion as other habits, function as stimuli in the same fashion that other organic or extra-organic events function, and are important simply because they are at the same time responses called forth by needs and stimuli calling out responses originally or previously called out by the situations in which the language habits formed.[2]

[1] *Psychology from the Standpoint of a Behaviorist*, 2nd edition, Chapter IX.

[2] A similar account of thinking may be found in "A Physiological-Behaviorist Description of Thinkng," J. F. Dashiell, *Psy. Review*, Vol. 32, pp. 54 ff. (1925).

If instead of asking whether the above account of language adequately describes thinking we ask whether the above account of language and of the process by which conduct is modified adequately describes human behavior, it seems probable (though not every one would agree) that our answer would be conditioned by the extent to which we can abstract the facts included under modification of behavior from the facts designated by the terms "reference to absent objects," "consciousness," and "logical organization of conduct." There is much reason to believe (though no brief for this contention can be presented here) that for many purposes, over large ranges of human conduct, modification of behavior can be abstracted from the other facts mentioned and described in terms of complications of stimuli and responses by redintegration or the conditioning of responses.

The problem becomes more complex when we attempt to consider the relation of language to absent objects or events. According to Dewey[3] identification of knowing and thinking with speech is in the right direction but theories along this line—except that of Professor Mead—have over-simplified. When it is asserted that thought is a speech reaction, if it is said that the stimulus of the reaction is a sensibly present thing, then we presuppose an object of knowledge; if the stimulus is a prior reaction which causes contraction of the vocal organs, then we have, not knowledge, but the action of a talking machine. To say that the speech reaction is adaptive does not suffice, since a sigh caused by organic conditions may be adaptive but is not thought. "There must be a defective or hesitant connection between seeing and handling which is somehow made good and whole by speech." Not every speech reaction is a cognitive statement. A judgment has to

[3] "Knowledge and Speech Reaction," *Jour. of Phil.*, Vol. 19, pp. 561 ff. (1922).

be a reaction not merely to an object as a provocative cause, but has to be a response which somehow fits into or answers to the object as stimulus. "The statement "this is a knife" is cognitive because it is more than a mere evocation of a prior piece of behavior. It serves to supplement or complete behavior which is incomplete or broken without it." Speech reaction "integrates or coordinates behavior tendencies which without it are uncertain and more or less antagonistic." The object of judgment is thus not the cause simply; it is the consequence, the modification effected in its cause by the speech reaction. This is still over-simplified: "A speech reaction is the innervation-of-vocal-apparatus-as-stimulus-to-the-responses-of-other-organs-through-the-auditory-apparatus. It involves the auditor and his characteristic reaction to speech heard."

While Professor Dewey's argument involves the factor of integration in conduct, it seems evident that the essential import of it is the contention that in some speech reactions the stimulus is not merely the present object or situation but the still unattained modification of the object or situation. It is not sufficient that the language response shall as a matter of fact initiate a response that will modify the situation acting as a stimulus to the language response. In such case the language response would be merely adaptive. The language response must include in itself reference to the fact that it will be responded to by other organs in such a way as to modify the stimulation situation. In other words, the language response involves reference to absent consequences. In *Experience and Nature* Professor Dewey states this contention in slightly different form: Signaling reflexes of animals present the basic material but not the sufficient condition of language. The essential peculiarity of language is that the speaker puts himself at the standpoint in which two parties share (pp. 176 ff.). In

communication "B's understanding of the meaning of what A says, instead of being a mere reaction to sound, is an anticipation of a consequence, while it is also an immediate activity of eyes, legs, and hands in getting and giving the flower to A" (p. 181). While Professor Dewey here puts anticipation of consequences in terms of the individual's putting himself in the place of another, it seems that this latter process is merely a particular case, and apparently not a peculiar case, of anticipation of consequences. It may be that anticipation of the responses of other people is temporally the earliest form of anticipation; but it is not apparent from Professor Dewey's argument that anticipation of consequences is to be explained in terms of communication between individuals. On the contrary, communication is made possible by the logically prior process of anticipation.

In Professor Mead's more extended analysis of communication, vocal gestures, with the connected activities which make them significant symbols, are made the basis of anticipation or transcendental reference. Professor Mead takes as his problem the complex act involving the cooperating activities of a number of individuals.[4] Among the invertebrates the mediation of complex conduct is found in the physiological differentiation of the individuals, and "there is no convincing evidence that an ant or a bee is obliged to anticipate the act of another ant or bee - - - - - in order that it may integrate its activity into the common act." Among men, however, we find a process by which a social object answering to the responses of different individuals in a society can exist in the experience of each individual of the society. This process is carried on by the individuals responding to situations with

[4]Cf. esp. "The Genesis of the Self and Social Control," *Inter. Jour. of Ethics*, Vol. 35, pp. 251 ff. (1925); also "A Behavioristic Account of the Significant Symbol," *Jour. of Phil.*, Vol. 19, pp. 158 ff.

vocal gestures which initiate certain responses in other individuals and at the same time initiate tendencies in the first individual to respond in the same fashion. That is, one individual anticipates the responses of other individuals in that he himself responds implicitly or in tendency as they are going to respond. Since he contains the responses of other individuals in himself, he can adjust his actions to such responses before they have been actually made by the other individuals. The whole cooperative act exists spatio-temporally in the responses of each individual before he makes the response that is his contribution to the cooperative act.

One significant aspect of Professor Mead's theory is that it removes anticipation of absent consequences and substitutes response to present attitudes which may or may not be counterparts of the future attitudes of other individuals. That they will be counterparts is guaranteed not by any anticipative reference to the future attitudes but by the past activities in which various individuals have attached similar responses to the same stimulus. In other words, the anticipative reference of thought to absent objects is described in terms of present language responses.

Another question is raised, however, when we consider whether or not the machinery which Professor Mead hypothesizes is the simplest which will describe the reference to absent objects in terms of responses to present stimuli. It seems obvious that if we mean by anticipation of objects present action which is adaptive to an absent but approaching object,—adaptive in the sense of putting the individual in a position to respond to the object when it does arrive,—Professor Mead's machinery is more complicated than is necessary. By the principle of the conditioned response the sight of an object, the handling of an object, and a verbal response may be so arranged that the

sight of the object may be a stimulus to the individual to make the verbal response, which in turn will stimulate the individual to initiate responses previously initiated by the handling of the object. In other words, one aspect of a situation extended in time and space may serve as a stimulus to initiate the response previously initiated by the entire situation. In such a case, if the aspect responded to is temporally earlier than the other aspects of the situation, the response of the individual will be an anticipation of the later aspects of the situation.

This may be brought out in another way by an analysis of Professor Mead's conception of social action. According to Professor Mead, as above explained, the cooperative reaction is made possible by the fact that all the individuals react to a common social object. This social object is made up of the response tendencies in each individual corresponding to the total responses of all the individuals participating in the cooperative act. But since the overt responses of the various individuals are complementary rather than identical, the response tendencies serving as stimulus to each individual initiate different responses in different individuals. The supposition that there is a common stimulus does not therefore explain the cooperation. We must in addition show how in each individual the common stimulus initiates the individual response that will fit into the responses of the other individuals. In other words, the presence in each individual of response tendencies corresponding to the total act does not explain the cooperation, and you have the same problem that you would have if you assumed merely that the overt activity of each individual is initiated by the same vocal gesture or by the same external situation. In either case the important thing is not the character of the stimulus but the fact that in different individuals complementary responses have been attached

to the same stimulus. If this be so, then the stimulus to cooperative behavior may as well be the bare vocal gesture as the vocal gesture initiating response tendencies corresponding to the total cooperative act. Whether or not the individual will understand what he is doing is another matter. What we have said does not prove, of course, that response tendencies corresponding to the total cooperative act do not serve as stimuli. It intends to show that it is not necessary to assume such response tendencies to account for cooperative action, even when physiological differentiation is absent. Later we shall ask whether such response tendencies are equivalent to conscious reference or understanding of what is going on.

While Professor Mead's theory is not without provision for application to anticipation of events other than the actions of other individuals, it is in such application that the theory seems least plausible. Clearly we anticipate events other than those made up of actions of other individuals. A skilled mechanic working on a complicated engine anticipates the effects of his labor on the engine, or anticipates the responses of the engine to his actions. However we may describe this or explain it, it would seem farfetched to say that the mechanic is sufficiently accomplished to be able to respond implicitly as the engine will respond. Perhaps we may say that in the present he tends to respond as he will respond overtly to the later action of the engine. For the purposes, however, of describing the bare fact that the behavior of the mechanic is suitable to making the engine go, it is necessary only to describe the fashion in which the stimuli which the engine presents have become stimulation functions. This does not exhaust the problem, however, for the behavior of the mechanic is, to use Dewey's phrase, not merely adaptive. The mechanic knows what he is trying to do.

This brings us to the third type of facts, the facts designated by consciousness or self-consciousness. Before we consider them we may say, on the basis of Professor Mead's theory and our criticism of it but still rather dogmatically, that thought as adaptation to absent objects may be described in terms of language responses and the principle of the conditioned response by which behavior is modified. The problem with which both Professor Dewey and Professor Mead are primarily concerned is not anticipation in the sense of adaptation but anticipation in the sense of consciousness of what one is doing.

Perhaps the chief criticism of the theory that language and thought are identical has been directed at Watson's doctrine that vocal habits become language habits when they become connected with arm and body movements and *substitutable* for them. In the symposium of the *British Journal of Psychology* ("Is Thinking Merely the Action of Language Mechanisms?": I. F. C. Bartlett and E. M. Smith, II. Godfrey H. Thompson, III. T. H. Pear, IV. Arthur Robinson, V. John B. Watson, Vol. XI, pp. 55-104, 1920-1921) this point recurs again and again. It is pointed out that mere replacement of one set of movements by another is not enough to constitute a language habit, that any series of responses arranged in a fairly definite order constitute a series of signs, and that such a series, even if vocal, is not necessarily thinking. Another writer remarks that the awareness of meaning remains an unsolved problem. Still another contends that there is nothing in the nature of a laryngeal response which can possibly label it as a substitute for a response of the larger musculature except order in time and frequency of accompaniment, and that the insufficiency of these criteria is apparent. The substance of Eaton's criticism of Watson involves much the same contention. He argues that it is impossible without

introspection to tell when a sign is substituted for an object, that substitution takes place in internal experience, and that thinking is the substitution of symbols, which are in the field of presentation, for the things intended by the symbols, which may be beyond this field. He goes on to say that if thought is behavior, it is behavior inhibited and yet fully aware of its directions and intentions, and that unless this capacity to suspend reactions and to anticipate an object rather than to behave as if it were present were developed, we should not be able to think but only to act (*Symbolism and Truth,* pp. 27-29). To solve the difficulty Eaton assumes the existence of a unique meaning activity (*Ibid.*, p. 23).

Not only the critics but also the supporters of behaviorism regard this point as crucial. Both Professor Dewey and Professor Mead go a long way in identifying thought with language, but as has been hinted above they are so impressed with the problem of how a vocal response becomes a significant symbol that they orient their entire accounts around this problem . Hunter, also, in his attempt to give a physiological solution of this problem shows himself to be conscious of it. He contends[5] that a symbolic process is a substitute process of a certain kind and of a certain stage of development. Substitution is defined in terms of the conditioned reflex, when two or more responses are associated; but a language response is equivalent to a substitute process which can be reinstated by an organism *only* when associative traces of the original process persist in the integration. It is clear that these hypothetical associative traces are put in so that the organism may in some fashion have in his possession at the same time the substitute and the substitutee, in order that he may refer to the substitutee through the substitute.

[5] "The Symbolic Process," *Psy. Rev.*, Vo. 31, pp. 478-497, 1924.

The problem of defining the relation of substitution is not a problem that arises in connection with the observable behavior of other individuals. Or rather, in this field it is not difficult to define the relation of substitution, since it is defined in terms of the transfer of a response from a complex situation to a part of that situation. Nor is it probable that it can be solved in terms of observable behavior. Thus Hunter's associative traces (which are certainly not observed but which nevertheless are supposed to lie in the field of the potentially observable) do not constitute conscious meaning or conscious reference. Professor Mead's theory, while much more plausible, suffers from a similar defect. The machinery which it describes seems more complicated than is necessary to account for the vocal gesture becoming a significant symbol in the sense of being a stimulus to cooperative action. On the other hand, it is not sufficiently complicated to explain how a symbol becomes significant in the sense of being a carrier of conscious meaning. Or rather, one feels that after the addition of implicit responses or response tendencies, one may still ask the question: But haven't you omitted consciousness or understanding of what is going on?

In approaching the problem of substitution and consciousness, the first step is to notice that there is considerable evidence to indicate that the problem of defining substitution may also fail to appear in the conscious field. Titchener's analysis of consciousness fails to disclose consciousness of meaning and puts meaning in context, outside of the field investigated by psychology. The arguments of the imageless thought school of psychologists purport to show primarily that thinking goes on when no conscious correlate of it can be found. This may be illustrated by the doctrine of the Aufgabe. To give a simple illustration, it was found that if subjects were shown a

number of colored blocks of various shapes and colors, after having been told to try to remember what colors were shown them, they remembered the colors but were vague in regard to the shapes. Conversely, if told to notice the shapes, they were vague about the colors. In neither case was the direction to notice shapes or colors present in consciousness while the blocks were being presented. The Aufgabe determined their perceptions, or their responses, but was not present in consciousness. In the same way, when we are thinking of a house, we do not have the house and a symbol in consciousness and consciously substitute the symbol for the house. If this be true, then the criticisms of the behavioristic account of substitution are based upon something other than a consciousness of substitution. For our purposes, the facts upon which these criticisms are based may be divided into the facts designated when we speak of awareness and those designated when we speak of organization or integration in behavior. The kind of meaning dealt with by the structuralists' concept of context and the Würzburg concept of the Aufgabe may be considered as involving primarily the problem of integration and organization in conduct or in experience, while the remaining facts designated by the term meaning may be identified with consciousness in the sense of awareness.

To summarize, the criticisms directed at Watson's doctrine that language habits are vocal habits substitutable for other muscular activity indicate a real difficulty in the way of the identification of language and thinking; but there is reason to believe (though arguments on the other side could be found) that the difficulty is not how either language or ideas can be known to be substitutes for symbolized objects. This problem does not arise either in a description of the field of observable behavior or in a description of the field of consciousness. The real difficulty is two-fold: the iden-

tification of language with thinking seems to neglect the organization or order usually regarded as characteristic of thought, and also our awareness of what is going on.

We may conveniently consider first the problem of order or organization. It will be remembered that Watson contended that the action of language habits is the random activity that a rat manifests in learning a maze. We have noticed already the conception of the Aufgabe which designates an experimentally observed organization of responses to colored blocks. The difference between logical memory and rote memory, the memorization of logically connected terms and the memorization of nonsense syllables, has long been recognized. Much the same problem is found in the solution of problems of various kinds, where the fumbling and success method of solution is contrasted with a "rational" or apparently more direct method. Thus Köhler's experiments with apes seem to show two types of solution, random fumbling and a solution in which the animal proceeds by a single continuous course to the solution of the problem, despite the fact that the behavior involved is different from the habitual behavior of the animal.[6] In the same group with the facts mentioned above are those that may be conveniently designated by the term "deductive logic." However sure the pragmatists may be that the test of theories is their working in actual practice, they have never been able to get away from the fact that theory does outrun practice. In such disciplines as mathematics language reactions that indeed were habits are rubbed together and the result is a long array of logically determinel language reactions that are not habits. Combinations of patterns of language reactions are obtained which are neither accidental groupings nor groupings determined by habit.

In general the facts indicated above have been dealt

[6]Cf. Köhler, *The Mentality of Apes*, pp. 17-19.

with in two different ways. One way has been to neglect or minimize them. The other way has been to magnify them and regard them as manifestations of thought. A third method of dealing with them is to generalize them. The way of thinking which has magnified the facts of organization and order and regarded them as manifestations of thought, has commonly conceived of thought as a teleological process the existence of which is a guaranty of truth or of a correct solution of the problem with which the individual is concerned; thought is defined as that which is characterized by the solution of problems or the attainment of truth. Behaviorism and, to a certain extent, pragmatism have criticized the teleological aspect of the conception of thought; but behaviorism and, possibly, pragmatism have gone too far in denying not merely the teleological aspect of organization or order but also the fact of organization or order (in the main pragmatism has erred in the converse fashion by defining thought as by its very nature problem-solving). We may illustrate by a hypothesis as to what may have occurred in Köhler's observation on the apes. If an ape proceeded by a single continuous movement in an attempt to get a bunch of bananas out of his reach from the ground but swinging close to a box upon which he could climb, then, if the action solved the problem, Köhler may have jotted down a score for thought as opposed to random fumbling. But if the action failed to solve the problem then the behaviorist would have jotted down a score for random fumbling. Correcting both possible interpretations, we may regard the action as manifesting organization regardless of whether or not it solved the problem.

Such a view implies that organization or order is found in behavior other than behavior that as a matter of fact solves problems; and it might be possible to support the

affirmation that all behavior involves organization and order. No behavior is atomistic. Language behavior cannot be adequately described without taking into account the interaction and interconnection between parts of language behavior. Consequently, the presence of organization in behavior does not force us to recognize behavior plus thought. The assertion that language behavior is random behavior is in the right direction in denying the presence of a transcendental adjustment of language behavior to the solution of problems; but it goes too far when it implies that randomness excludes organization and interaction of bits of language behavior. The question may be left open whether the organization of behavior can be described merely in terms of spatial and temporal relations, or whether it involves a perception of reasons belonging essentially in the conscious field.

It seems probable that a fairly adequate account of behavior can be given in terms of the categories mentioned above; but we may still insist that no notice has been taken of the fact that we are often aware when we act of what is going on. Of the facts included under thought we still have consciousness or awareness on our hands. According to Dewey, language confers meanings on natural events. Through it "natural events become messages to be enjoyed," (*Experience and Nature*, p. 174) and through communication "A directly enjoyed thing adds to itself meaning, and enjoyment is thereby idealized" (*Ibid.*, p. 167). He goes on to say that "communication is a condition of consciousness" (p. 187); and he contends that "it is safe to say that psychic events, such as are anything more than reactions of a creature susceptible to pain and diffuse comfort, have language for one of their conditions" (p. 164). In a somewhat similar but more extreme fashion, Lashley asserts that consciousness is "a complex inte-

gration and succession of bodily activities which are closely related to or involve the verbal and gestural mechanisms and hence most frequently come to social expression."[7]

While some psychologists have denied the existence of consciousness altogether, and while there are some very good reasons for this denial, it seems impossible not to admit that we are a good part of the time conscious of, or aware of, things and objects about us. It may be contended, however, that what we are conscious of is always some response that we are making, and that of the responses which we make we are conscious or aware only of language responses; and I suppose that the contentions of Dewey and Lashley amount to something of this sort. There is a good bit to be said for this view. For instance, psychologists have often pointed out that learning often proceeds best when it is unconscious. That is, conscious direction of your feet when you are trying to learn to skate interferes with your progress—it is much better simply to skate. If being conscious of skating consists of talking about what you are doing with your feet, then instead of saying that unconscious learning is most rapid, we may make the much more intelligible statement that one activity proceeds better when it is not interfered with by the concomitant activity of talking. In the same way the somewhat puzzling unconscious drives and wishes are much more intelligible as unverbalized responses.

Nevertheless, the evidence seems insufficient in the face of the common experience of seeing and hearing things without making any response which can be observed either by the individual concerned or an external observer. Moreover, language is, certainly, not the sole and sufficient con-

[7] "A Behavioristic Interpretation of Consciousness," *Psy. Rev.*, Vol. 30, p. 238; a similar doctrine is found in J. F. Markey, "The Place of Language Habits in a Behavioristic Explanation of Consciousness," *Psy. Rev.*, Vol. 32, pp. 384 ff.

dition of consciousness, as we may talk when we are asleep, or may talk without knowing what we are saying. In a sense, doubtless, consciousness is correlated with integration. That is, our ordinary test of whether or not we *were* conscious of some response is our ability to recover it from our present behavior. For example, when we awake we often have a dim memory of having dreamed something the details of which are lost; and there is no reason to doubt that we often dream without remembering in the morning that we dreamed. In such a case, I suppose we should say that we were not conscious of dreaming; but this means merely that the dream is disconnected from our waking experiences. Something of the same thing happens in the case of divided personalities. Consciousness in such cases seems to be largely a matter of integration, and this integration is probably largely integration of language responses, though there is no reason to think that it is always such.

On the whole there seems to be no conclusive evidence to show that consciousness is always consciousness either of language responses or of responses in general. We seem to be conscious sometimes of responses and sometimes of things to which we do not respond or to which we do not respond in a way that is a counterpart of our consciousness. We are conscious both of our responses and of their setting. The question still remains as to the part that consciousness plays in behavior. In the account of the modification of behavior and of the organization of behavior we have implied, and it seems true in a general way, that behavior can be adequately described in terms of stimulus and response, neither stimulus nor response being defined in terms of consciousness. This conclusion is not dependent upon a realistic assumption of a world of external objects but holds true as well on the theory that the world is made

up of bits of consciousness or of perspective from various conscious points of view. Even though everything is made up of bits of consciousness, we may distinguish the bits of consciousness making up an individual's responses from those which make up his awareness, and we may describe his responses without describing his awareness. The contention that stimuli and responses may be described without reference to the individual's consciousness (thought of as existing merely as accompaniment of an indeterminate number of stimuli and responses) must certainly be modified, however, with reference to images. Images which can hardly be correlated with implicit responses do exist, if the testimony of experience can be accepted; and there is no reason to doubt that they initiate action in the same way that external stimuli do. If this be true, then they, like words, may be the part of a complex situation which serves to initiate the response to the total situation. It is to be noticed, however, that in such cases images no more than words would have a reference to absent objects.

In summary we may say that if we mean by thought the capacity of human beings to modify their conduct, then thought is not identical with language activity. Language habits are built up in the same way that other habits are built up though they may have a strategic position in that they may be the principal nuclei around which stimulational functions are built up. Thought as reference to absent objects may be explained in terms of language and other behavior so far as reference is identical with adaptation. If this identification is refused, the problem merges with the problem of meaning. Meaning as organization or interaction responses may be described in terms of behavior, and language may be the type of behavior whose organization is most important, though organization is not always confined to, or the result of, language behavior. Finally,

thought as awareness can, on the basis of the present evidence, by no means be either identified or perfectly correlated with language. In general, however, we may describe and control behavior adequately without knowing whether or not it is accompanied by awareness, though an exception must be made in the case of images. But images, when they exist and are effective, initiate conduct in the same way that words do, without referring to absent objects.

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THE DOCTRINE OF RECOLLECTION IN PLATO'S DIALOGUES

"ALL enquiry and all learning is but recollection."[1] This is the reply of Socrates in Plato's *Meno,* when he is confronted with the Sophistic puzzle about the possibility of learning, a puzzle which the youth Meno, tiring of hard thinking, introduces to justify his bewilderment at the collapse of the previous argument. In the opening of the dialogue, the spoiled young Thessalian airily flings out the question whether virtue can be taught, as if the query were a simple one, easily disposed of in a sentence or two. Socrates is not ready, however, to answer the question without a thorough investigation of the more fundamental problem, "What is virtue?" It is after several unsuccessful attempts to define virtue that Meno, inclined to give up the quest, brings up the stock puzzle of the Sophists: "And how will you enquire, Socrates, into that which you do not know? | What will you put forth as the subject of enquiry? And if you find what you want, how will you ever know that this is the thing which you did not know?"[2] In other words, if one does not already know, inquiry is not only futile, but impossible. For in the first place, one could not recognize the solution of his problem if he should chance to hit upon it. In the second place, one could not even begin an inquiry; for how would one know what to

[1] *Meno* 81C. All our quotations from the *Dialogues* in English follow Jowett's translation, Third Ed., Oxford University Press, 1892.

[2] *Meno* 80E.

seek if that for which search is to be made is wholly unknown.

The dilemma thus presented by Meno turns in part upon an ambiguity of the Greek word μανθάνειν which primarily means "to learn," but has also the derivative and colloquial meaning "to understand," "to take in the meaning."[3] For the Platonic Socrates, however, a deeper and more than verbal significance is involved. For scepticism is in the air. The Sophists declare that no one can know anything except his own sensations and feelings, and since sensations are changeable and insecure and yet are the only source of knowledge, *all* knowledge is uncertain. Truth at least is relative to the individual; what a man senses and feels is true for him, but has no universal validity. There can be no absolute truth. This standpoint of relativistic scepticism is quite at variance with the position of Socrates and Plato. The Platonic Socrates accepts the Heracleitean doctrine of flux so far as the sensible world is concerned; but he is impelled by the very unknowableness of this world to the recognition of another realm which is the object of a truly scientific knowledge. He takes for granted that there is such a thing as science—a body of truth valid always and absolutely for every thinking mind. This system of absolute truth he calls the world of Ideas. It is of the Ideas only that there can be genuine knowledge.

By the Ideas are meant universal concepts which are objective (i. e., the *objects* not the *states* of the knowing mind), imperishable, immutable, and forever self-identical. They are absolutely immaterial and subsist independently

[3] *Cf. Euthyd.* 275D-277D, where this same double meaning of the word is taken advantage of by two clever "eristics" to entangle the young Clineas in a hopeless contradiction. Tricked by the ambiguities of language, Clineas is forced to admit in turn the conflicting propositions that those who learn are (1) the wise and (2) those who are not wise; and again that when one learns one (1) already knows and (2) does not know what one is learning.

of space and time in eternal perfection. They can not be apprehended by the senses, nor could they were the senses ever so perfected and refined. They are known by the intellect alone. The whole system of these "universals," if known, would form a complete and perfect deductive science. This intelligible universe, the realm of these unchanging and universal natures, is the sole object of all true science.

The relation of the Ideas to the particulars of sense is expressed by Plato in several ways. Sometimes he uses the word κοινωνεῖν, "to have communion with," sometimes the term παρεῖναι, "to be present with," and again the word μιμεῖσθαι, "to imitate." All of these words express some aspect of the relation of the concrete fact to the universal of which it is an instance. The particular book has communion with or participates in the Idea "Book." Or the particular book is a copy or instance of "Book," a copy which, however, approximately but never wholly embodies the Idea.

This brief statement concerning the Platonic notion of the objects of knowledge serves to bring out its sharp contrast with the position of the Sophists. Plato is out and out intellectualistic in his theory of knowledge. To know means to apprehend "universals". It is the "universal" which gives meaning and significance to the particular object of sense experience. It is, accordingly, the knowledge of "universals" to which Socrates has reference when he says that learning is recollection. Relativistic theories of knowledge are everywhere repudiated in the *Dialogues* and with special care and clearness in the *Theaetetus* it is shown that the relativistic theory of truth is logically untenable and self-refuting.

To come back to the *Meno;* it is pre-eminently on pragmatic grounds that Socrates here refuses to listen to the

Sophistic doubt as to the possibility of acquiring knowledge. He declares that such a doctrine is destructive of all mental effort, fatal to all aspiration and thirst for truth, and productive of idleness and lethargy.[4] He recognizes, indeed, that the learning process presents a very real problem. But he feels that it is better to assume the possibility of learning as an hypothesis and to act upon it—better to postulate a theory that will offer a plausible solution of the difficulty, even though it may theoretically be open to doubt —than to surrender to absolute scepticism.[5] He is certain *that* knowledge is possible. An hypothesis which would make intelligible *how* it is possible is the doctrine of recollection.

Socrates declares that the hypothesis that learning is recollection is suggested by the doctrine of priests and priestesses who have studied the deep things of their profession, and by Pindar and other poets. They all assert that the soul is immortal, has passed through many incarnations, having been born into mortal bodies again and again, but that before entering into association with the body the soul has beheld all reality and all existence. It is therefore no wonder that she can recall all that she ever knew about everything; for "as all nature is akin, and the soul has learned all things, there is no difficulty in her eliciting or as men say learning all the rest, if a man is strenuous and does not faint."[6]

Meno failing to understand what can be meant by saying that learning is always recollection, Socrates offers to exemplify—to exhibit a case of learning as recollection.

[4] *Cf. Meno* 81D.

[5] *Cf. Meno* 86C: "Some things I have said of which I am not altogether confident. But that we shall be braver and less helpless if we think that we ought to enquire than we should have been if we indulged in the idle fancy that there was no knowing and no use in seeking to know what we do not know;—that is a theme upon which I am ready to fight in word and deed, to the utmost of my powers."

[6] *Meno* 81B.

He calls one of Meno's slaves, who has never studied mathematics, and assists him to work out, i. e., to "learn," a simple geometrical proposition. The theorem to be proved is that the area of the square described on the diagonal is equal to double the area of the original square. Socrates draws a diagram, and, as he questions the boy, directs his attention to the figure. The boy's first guess is that if one wishes to draw a square whose area shall be twice that of another, he must make its side twice as long, that if the original square be a two foot square, then the square sought must be a four foot one. Socrates easily convinces him that he is wrong (for $4\times4=16$ and not 8). The boy's next thought is that, since the line required on which to describe the square is more than two feet, and less than four feet, it must be three feet. Again his error is revealed (for $3\times3=9$). After a few more questions, the boy is made to *see* that the line required is none other than the diagonal of the first square.[7]

Meno has to admit that this knowledge has not been *imparted* to the boy. The boy's attention has merely been directed to the diagram, which has suggested the right answers. The only information that Socrates has *given* him is the technical name of a certain line—the diagonal. All the other answers have been drawn out of his own head. He has "brought up knowledge from within." It becomes clear to Meno that this boy, who has never studied geometry and yet recognizes the logic of the proof, *has* knowledge which he has never acquired through experience. Hence he must have had it "before he was a man."[8] A corollary of this proposition is that the soul is immortal; but the *emphasis* is not so much on the temporal pre-existence of the soul, as on the fact that the mind of man is so constituted that knowledge is possible.

[7] For the detailed experiment see *Meno* 82-86.
[8] *Cf. Meno* 86A.

Pre-existence, in the ordinary sense of the word, is not an essential part of the doctrine of recollection, though no doubt Socrates believes in it in the main, but is not confident of the details. The one thing of which he is absolutely certain is that *somehow* the knowledge of "universals" is natural to the mind.

It is worthy of note that in the case of a mathematical truth such as that which is elicited in the *Meno,* the *one* particular instance suggests the universal. There is no question of induction from repeated particulars. The truth jumps out at one, so to speak. From contemplation of, or reflection upon, the *one* figure absolute certainty is derived. No combination of previous impressions could ever produce such knowledge, and concrete experiences can elicit it only because it is already latent in the soul.

There are, however, degrees of knowledge. All knowledge involves a recall of Ideas, or "universals," but the same degree of certainty is not attained in all cases. In the realm of mathematical truth, absolute certainty is reached at once. This is true of all pure Ideas—the subject matter of the science of Dialectic.[9] But in the realm of "becoming," the sensible world, there is an irreducible, irrational element which can never be wholly overcome. When the mind deals with sense objects, therefore, it attains at first to a very rudimentary knowledge only, which at best is "true opinion." In order to attain to the dignity of genuine knowledge, the "universal" which is apprehended must be raised to clear explicit expression; and it must be connected with a system of reasoned and logical truth.

Since ἀνάμνησις is identified with the whole learning process, it must go beyond sensuous intuition to clear discursive reasoning. The whole process involved in rising

[9] Cf. *Rep.* VI, 510 ff.

from "true opinion" to "knowledge" is included in the awakening of Ideas. The particular judgments of the ordinary man *may* be true, but in order to become *knowledge* he must be able to give a precise and logical account of them. As Socrates says in his picturesque language: "While they abide with us they [true opinions] are beautiful and fruitful, but they run away out of the human soul and do not remain long, and therefore they are not of much value until they are fastened by the tie of the cause."[10] He expressly identifies this fastening of opinion by the tie of the cause with recollection; the αἰτίας λογίσμος. is ἀνάμνησις.[11] The importance of this identification of ἀνάμνησις with the *search for causal relations which shall bring stability into our opinions* is emphasized by the fact that Plato repeats again in the *Phaedrus* in almost exactly the same language as the *Meno* that: "A man must have intelligence of universals, and be able to proceed from the many particulars of sense to the one conception of reason; *this is the recollection* of those things which the soul saw while following God."[12] It should be noted, however, that the search for causes means for Plato, not the inquiry into what Aristotle called the material and efficient causes but the quest for the formal and final causes. What is the *essence* or *Idea* involved in a phenomenon, and what is its *purpose?* These are for him the truly scientific questions.[13]

This identification of ἀνάμνησις with the scientific method makes it quite evident that the process of recall is no instantaneous or miraculous one. It is the gradual bringing of the intelligible world into clear consciousness. The philosopher advances to true knowledge because he does systematically and purposefully what ordinary men do in

[10] *Meno* 98A.
[11] *Cf. ibid.*
[12] *Phaedr.* 249C. The italics are mine.
[13] *Cf. Phaedo* 98-101.

a haphazard and intermittent manner. The slave boy in the *Meno,* under the skillful questioning of Socrates, recognizes some elemental truths about geometry. But Socrates declares: "At present these notions have just been stirred up in him as in a dream; but if he were frequently asked the same questions in different forms, he would know as well as anyone at last."[14] The process of learning is a long and arduous one. No one is endowed with ready-made knowledge which comes without effort. Nothing could be farther from the Platonic doctrine of recollection than the crude theory of "innate ideas" (a theory never held by any philosopher of first rank) which dispenses with the need for industry and application.[15]

All men have the capacity for learning and are potential philosophers, just as the slave boy is a potential geometer. But there are few who realize their capacities. There are few who will take the trouble to "tie their opinions by the tie of the cause." Ideas are by most men beheld in a dreamy sort of way and not rooted in logical reasons. Their state is that described in the *Politicus*: "Every man seems to know all things in a dreamy sort of way and then again to wake up and know nothing."[16] To make knowledge secure, time and effort are required.

While the degree of attainment of true knowledge is thus largely dependent on the amount of effort and earnest application expended, the Platonic Socrates is not blind to the fact that men differ in their *capacities* for knowledge. In the *Phaedrus* myth the *fact* of individual differences in the native endowment of men is recognized and, while no scientific explanation is attempted, an imaginative account is offered. The suggestion is made that perhaps some souls have seen the Ideas for a short time only or they may

[14] *Meno* 85D.
[15] *Cf. Theaet.* 186C.
[16] *Polit.* 277C.

have been unfortunate in their earthly lot and "lost the memory of the holy things which once they saw. Few only attain an adequate remembrance of them."[17]

The best clue to an understanding of the deeper meaning of the doctrine of recollection is furnished by the phrase, "all nature is akin."[18] The *Phaedo* contains the same reference to the soul's kinship with nature. Learning is said to be the recovery of knowledge which is "natural to us"[19] and again the state of the soul called "wisdom" is said to be the "passing into the world of purity and eternity, and immortality, and unchangeability which are her kindred."[20] In other words, it is because the soul is akin to reality that she can know. In the *Republic,* the philosopher is said to attain to the knowledge of every essence "by a sympathetic and kindred power in the soul."[21] The world is regarded as rational through and through. The knowable world is the real world. Hence, since the nature of the soul is ultimately one with the nature of the real, it is not strange that she can know. The view that "all nature is akin" receives perhaps its fullest emphasis and elaboration in the *Timaeus.* Here the creator is represented as making the world after the pattern of the eternal Idea. He forms within the universe a *soul,* which partakes of reason and harmony. The soul of the universe is formed "out of the indivisible and unchangeable and also out of that which has to do with material bodies."[22] The world soul is created first and then the corporeal universe fashioned within her. Thereupon the soul of man is molded out of the same elements as the world soul.[23] Since the world soul and the human soul are both made out of the same ultimate constituents—the being which is undivided

17 *Phaedr.* 249E-250A.
18 *Meno* 81B.
19 *Phaedo* 75E.
20 *Phaedo* 79D.
21 *Rep.* 490B.
22 *Tim.* 35A.
23 *Cf. ibid.* 41D.

and is always the same and the being which becomes and is divisible in bodies (the "same" and the "other")—the soul corresponds in nature to the universe. It is therefore but natural that like should perceive like. The world is not alien; our minds and reality are not radically discrepant with one another. In learning the soul comes to that which is her own kindred.[24]

From the account in the *Timaeus,* it is clear that knowledge of the Ideas has not been gained in any previous life on earth but is the *original* possession of the soul. For it is stated that the creator showed the souls the nature of the universe before he sowed them in mortal bodies for the first time.[25] Moreover it is stated that one element in the composition of the soul of man is the "same," the immutable, eternal, indestructible, which is reason, and akin to the Ideas. The doctrine of recollection, thus, is not to be interpreted as the doctrine that men remember what has been learned in former incarnations. It is much more profound than that. It expresses the rational nature of soul itself.[26]

II.

In the *Meno,* the doctrine of ἀνάμνησις is stressed for its explanation of the possibility of learning; the doctrine of the pre-existence of the soul is strictly subordinate to the epistemological argument, and merely suggests in a mythical way how such a theory may be possible. In the

[24] *Ibid.* 37A-B. The context of this passage makes it seem to refer to the world soul, but it may be inferred that "soul" in general, "soulness," is the subject of discourse. Or, if not, at least it may be applied with equal truth to the nature of the human soul as to the world soul, for Plato has clearly stated that they are made of the same ingredients.

[25] *Ibid.* 41D.

[26] *Cf.* Zeller: *Plato and the Older Academy,* p. 126 note: "And it seems equally clear to me that the doctrine of Reminiscence really presupposes the Ideas. The objects of Reminiscence can only be universal concepts—the sensuous forms of which meet us in individual things, not presentations which we have experienced in former lives."

Phaedo, however, we find the reverse. Here the doctrine of recollection is offered as a part of the proof of the immortality of the soul.[27] In several respects, also, the meaning of the doctrine itself is elucidated and refined in a way that supplements the account in the *Meno.*

In the *Phaedo,* Cebes, a Pythagorean friend of Socrates, refers to the doctrine as a favorite one of the aged sage who is so soon to drink the hemlock. When Simmias asks for the proof of the doctrine, Cebes refers to the way in which mathematical truths may be elicited by questions, as is demonstrated in detail in the *Meno.* Socrates further elucidates the meaning of the theory by reference to what is now called the "association of ideas." He declares that the doctrine may be illustrated by our experience of recall—when we see one thing we may be reminded of another, as when a lyre puts us in mind of the youth who was wont to play it. Anyone seeing Simmias may be reminded of Cebes, or seeing a picture of Simmias may remember Cebes. Or again, seeing a picture of Simmias puts one in mind of the man himself. Being reminded consists in calling to mind something which is not now presented to the senses, but which is nevertheless in the possession of the mind. Such empirical recall is analogous to what takes place in all learning. What is presented to the senses calls to mind something which was never derived from the senses, and which is nevertheless felt to be the mind's own possession and to have been always known.

Undoubtedly it is the feeling tone which accompanies the learning process that, in part at least, causes Socrates to refer to the latter as a case of "recollection" and to connect it with temporal and empirical memory. When one

27 The writer's contention that the deeper meaning of the doctrine of recollection is independent of the theory of metempsychosis does not imply that Socrates did not believe in individual immortality. It seems most probable that he did.

has solved a mathematical problem, for example, one experiences a feeling of certainty, of satisfaction, almost of familiarity, which can best be expressed by the word *re*cognition. It is as if the knowledge gained is really an old friend, forgotten for a while, and again called to mind. When one learns, one *re*cognizes truth. The emotional fringe of warmth and intimacy which gathers about knowledge that has been acquired is unquestionably responsible for the term ἀνάμνησις, and probably for the language which speaks of logical priority as though it were temporal.

Archer-Hind remarks that the order of the Socratic illustrations of recall through association seems at first sight strange, for the transition is from the complex to the simpler and more direct cases of association. But when one remembers the use for which Plato intends the analogy, he realizes the appropriateness of Plato's emphasis. For the doctrine of Ideas conceives of the things of sense as imperfect copies of the Ideas. The particulars therefore remind one of the Ideas in precisely the same way as the picture of Simmias calls to mind the person himself.[28]

When one sees a picture of a familiar individual one is not only reminded of the living person but he also judges whether or not the picture is a good likeness.[29] This consideration leads Socrates to a further step in his argument. If there is such a thing as absolute equality (and of this Simmias is unshakeably confident), and if no two sensible objects ever perfectly exemplify such equality, the recollection of the "universal" *equality* cannot have been derived from previous sense presentations. When equal pieces of wood, stone, and other objects are seen, one is conscious of a standard of perfect "equality" of which they

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[28] Archer-Hind, *The Phaedo of Plato* (New York, 1894), Note on *Phaedo*

[29] *Phaedo* 75A.

fall short. Since no one has ever experienced perfect "equality" in this life, the knowledge of this standard must antedate birth. For it is impossible that one should be "put in mind" of something of which he had no previous knowledge. One could not realize that the particular falls short of a standard unless the standard were somehow already in the possession of the mind. But this pre-natal knowledge must be not only of equality but of all other Ideas for, says Socrates, "we are speaking not only of equality but of beauty, goodness, justice, holiness, and of all which we stamp with the name of essence in the dialectical process, both when we ask and when we answer questions."[30] Two alternatives only are possible: "Either we had this knowledge at birth and continue to know through life; or after birth those who are said to learn only remember and learning is simply recollection."[31] Now if every one actually knows all the Ideas at birth and continues to know them throughout life, all men ought to be able to give an account of them. For if a man truly has knowledge he can give an account of it. It is obvious, however, that not all men can give such an account. In fact, Simmias fears that when Socrates is gone, there will no longer be any living man who can give an account of the Ideas. Evidently, then, knowledge of the Ideas must be potentially and not actually in the soul at birth. All men must have "forgotten" them and be in the process of "recollecting" them.

Human beings, however, are not believed to acquire knowledge in some miraculous fashion apart from sense experience. Socrates expressly declares that the senses are needed to call the Ideas to mind: "We recognize that this absolute equality has only been known and can only be known through the medium of sight or touch, or some

[30] *Ibid.* 75D.
[31] *Phaedo* 76A.

other of the senses . . ."[32] In our human state, because the soul is imprisoned in a body, the senses are indispensable for the acquisition of knowledge. Nothing can be known without them.[33]

Nevertheless, Socrates holds that the senses are not unmixed blessings. The life of the senses distracts the soul from her true life; sights and sounds, pains and pleasures hinder the thinking process, true existence and absolute truth are revealed in thought alone.[34] Therefore the philosopher will be glad to be rid of the body, "for if while in company with the body, the soul can not have pure knowledge one of two things follows—either knowledge is not to be attained at all, or if at all, after death."[35] And not only are the senses distracting elements but even in their own proper sphere they are untrustworthy guides.[36] They are inaccurate witnesses to the truth. When the soul uses them she is dragged down into the world of becoming and is confused. Nothing permanent or true can be asserted of sensations apart from the "universal" or system of "universals" which the sensation serves to call to mind. The sensible *per se* is unknowable. Moreover the body has no organ for the perception of universal notions such as "being" and "not being," "likeness" and "unlikeness," "sameness" and "difference," "unity" and all other "numbers" which are applied to the objects of sense.[37] They are perceived by the mind itself without any organ. And it is precisely of these objects that the mind has its most genuine knowledge.

[32] *Ibid.* 75A.
[33] *Cf. Tim.* 68E-69A, and also 47B.
[34] *Cf. Phaedo* 65-66.
[35] *Phaedo* 66E.
[36] *Cf. Ibid.* 65B; also *Rep.* VII 523E.
[37] *C. Theaet.* 185C.

III

Professor Stewart has significantly pointed out that in the *Phaedrus* the doctrine of recollection is presented from a different point of view or rather depicts a different *mood* from that prevailing in the other *Dialogues*. He distinguishes two kinds of ἀνάμνησις:

"(1) Empirical Recollection in which either (a) a similar particular is recalled, or (b) a general point of view taken, a law of nature is conceived; and (2) Transcendental Recollection in which a feeling is awakened by the presence of some sensible object—a feeling which is always ready to condense itself, as it were, round, to 'fringe' an *image,* so that the image becomes transfigured, becomes an object of wonder, and takes rank as archetype of the sensible object of which it is after all, the mental representation."[38]

The prevailing *mood* of the *Phaedrus* account of ἀνάμνησις is what Professor Stewart calls the "transcendental" one. It is the mood which is prominent in esthetic experience. Recollection is presented as insight into the higher values, and especially as appreciation of beauty. The beautiful object becomes a symbol of some higher power, or as Plato would say, of the Idea of which it is an imperfect copy. Intuition grasps the one spiritual system of the universe as "Heavenly Beauty residing on Earth." At first this wonderful vision of beauty is revealed only in flashes, but in time it comes to be the object of an habitual faith. The eternal world, beyond sense and discursive understanding, is lived in, not known but felt. It is beyond reason, not because it is irrational (for Plato all reality is most rational) but because in this life it transcends complete apprehension by reason. If human reason could reach its goal, Beauty, Truth, and Virtue would be

[38] Stewart, J. A., *Plato's Doctrine of Ideas,* p. 194.

seen as one. But since it is impossible for mortal man to attain this complete knowledge, the soul knows it only in flashes of insight which it treasures and reflects upon until eternal Truth, Goodness, and Beauty became the sole passion of the soul. A philosophic love is then awakened which is no mere desire for cold facts, but an ardent search after and worship of the supersensible Ideas.

The esthetic mood is more or less fleeting and only imperfectly translatable into articulate language. It is best conveyed or described in myth or symbol. It is this transcendental mood which is so vividly embodied in the *Phaedrus*. The gist of the myth may be summed up as follows: The soul, in its prenatal state, is represented as a charioteer driving a pair of winged steeds in the train of the gods around the circle of heaven, where absolute Beauty, Goodness, and Wisdom shine in all their eternal glory. One of the steeds is noble; the other is ignoble and bent on dragging the soul down to earth. The wings of the soul are intended to carry her up into the upper world where she may feast on the pure forms of reality itself. The souls of the gods have no difficulty in reaching the desired place, but mortal souls, having an unruly steed to manage, see only broken glimpses of the eternal verities. Some souls give up the struggle and leave the path which leads to the beatific sight. Some of them even lose their wings and fall to earth, taking human forms and becoming entombed in bodies. At her first birth the soul becomes man, never beast. The soul that has seen the most of the truth becomes a philosopher, or creative artist; the next best, a righteous king or warrior chief; and so in order—politician, a lover of gymnastic, prophet, poet or other imitative artist, artisan, sophist, tyrant. These are all states of probation and in the next life he who does well improves, and he who does ill deteriorates in his lot. All men have at

one time seen the truth and have some conception, however fragmentary, of universal goodness and beauty. That is what differentiates the soul of man from that of the beast. The mass of men, however, recall only confusedly and with difficulty the things of the immaterial world. The mind of the philosopher, on the other hand, has retained more of the vision. If he chooses to live the life of a philosopher three times in succession he may finally recover his wings and return to the place from which he fell. But since this recovery takes place by means of ἀνάμνησις, it it absolutely necessary that the soul be united to the body of a man in order that it may recover the lost wings. For recollection takes place when sense objects suggest the divine realities.

Of all the representations of the Ideas in the sensible world, that of Beauty is the most striking and most clearly apprehended.[39] When, then, the philosopher sees anyone "having a god-like face or form, which is the expression of divine beauty,"[40] he is aroused to awe and worship. His "wings begin to sprout." He is in a state of uneasiness and ferment "which may be compared to the irritation and uneasiness in the gums at the time of cutting teeth." Men say that this is "being in love" but it is really the process of growing one's spiritual wings again.[41] Beauty embodied in physical form calls to mind the divine and eternal Beauty which is perfect, unchanging and pure. This is the esthetic aspect of ἀνάμνησις.

Now when the philosopher has found his love—the one who to him suggests absolute beauty—he makes of him a kind of god, and "fashions and adorns him as a sort of image which he is to fall down and worship."[42] He is

[39] *Cf. Phaedr.* 250B-E.
[40] *Ibid.* 251A.
[41] *Cf. ibid.* 252B.
[42] *Phaedr.* 253A.

deeply interested in his beloved and seeks to form his character and disposition into likeness with the divine "so far as man can participate in God."

In the *Symposium* we are told that the object which lovers really have in mind is "birth in beauty," whether of body or of soul. Love is not love of the beautiful only; it is desire of parenthood. But there is a spiritual as well as a physical parentage.[43] The philosopher in whom has been awakened a philosophic love seeks to associate himself with another beautiful soul in order that the desire for spiritual children may result in the birth of noble thoughts and ideals. Ideas are brought forth when two lovers—worshippers of beauty, wisdom, and virtue—are associated together in a common creative self-expression.

From Socrates' own practice, it can be seen that such an association of two fair souls is his ideal of the way in which recollection may take place. His whole method is an exemplification of just such a "birth in beauty" of noble thoughts. Socrates conceives it to be his duty to evoke in others true and explicit Ideas; and his method is always that of search in company with others. Dialectic, or conversation, is the proper means of inquiry. A younger learner united with a more mature fellow-inquirer, who sympathetically guides the quest and now and again throws in the right suggestion, is the ideal combination for the bringing forth of wisdom and virtue, "which are their common offspring."[44] In the *Euthydemus* the dialectical method of Socrates is sharply contrasted with the practice of the Sophists, who are merely concerned with putting misleading questions and exhibiting their cleverness, and who consequently accomplish nothing. The method of Socrates, on the other hand, succeeds in drawing out the

[43] *Symp.* 208-209D.

[44] *Symp.* 209D.

mind of the respondents, and therefore leads to some conclusion, even though it may be only that so far the final solution has not been reached and that the inquiry must be continued. Some clarification of concepts at least is obtained.

It is in this same spirit that Socrates in the *Theaetetus* compares his art with that of a midwife.[45] Just as his mother attended women who were about to give birth to children, and assisted them in their labors, so Socrates thinks of himself as attending at the birth of ideas. By skilful questioning and suggestions, he is able to assist others to deliver themselves of thoughts, which though potentially in their minds, might not, without his aid, come to conscious fruition. He does not impart information; he merely draws from the soul what is within, and her very own. While the doctrine of reminiscence is not explicitly referred to in the *Theaetetus,* this comparison of his method to that of midwifery seems clearly to imply it.

Indeed, the whole theory of education in the *Dialogues* rests upon the idea of the process of education as one of ἀνάμνησις. Teachers are needed, but they can not pour knowledge into the students' minds as into an empty vessel. Realizing that no knowledge is the pupil's own which he has not labored with and thought out for himself, the teacher must act as a midwife for souls. In the *Republic* (where his theory of education is worked out in detail) Socrates declares that knowledge can not be put into the soul, "like sight into blind eyes" for "the power and capacity of learning exists in the soul already."[46]

Since Plato's whole theory of education implies the doctrine of recollection, and since teaching is drawing out of the mind what is latent there, the vexed question of the

[45] *Cf. Theaet.* 149-151.

[46] *Rep.* 518C.

teachability of virtue which is discussed in the *Protagoras* and the *Meno* is solved. For the teachability of virtue is a corollary of the Socratic doctrine that goodness is knowledge. This doctrine is implicit in all of the earliest dialogues. Real goodness or virtue depends upon a grasp of intelligible principles. No knowledge of any kind can be passively acquired; but active response of thought to the suggestions given out by a more mature fellow-seeker will result in a virtue that is grounded on sound insight into the principles of conduct.

The Socratic doctrine that virtue is knowledge is not to be understood as maintaining that unimpassioned logic can motivate right conduct. What it teaches is that the reason of man does not express itself in "cold" logical thinking but includes an element of passion and ardour. Reason is afire with the love of beauty and goodness as well as of truth, and is therefore capable of inspiring to life and action, as reason in the more narrowly intellectualistic sense of the word can not do. Knowledge lays hold primarily of the intellect, but through the intellect of the whole personality, moulding the will and emotions into absolute unity with itself. True knowledge *can*, therefore, make a man good.

Virtue can be taught, moreover, because the ideals by which conduct is regulated are latent in the soul. They can as little as mathematical axioms be acquired from particular experiences alone. The virtues of courage, temperance, justice, and holiness, which we passionately admire and try to emulate are not found perfectly exemplified in any human being or society;[47] the particular instances always fall short of perfection.[48] Because moral ideals are not found fully exhibited in this life, it must be, thinks

[47] *Cf. Phaedo* 75C.

[48] *Cf. Phaedr.* 250B.

Socrates, that they are recollected from a previous existence, or rather are original in the nature of the soul itself.

Many men, however, are only faintly aware of the world of ethical values. The busy world of temporal tasks and the satisfaction of human desires and cravings obscure the vision of the soul. The soul is limited and hampered by its association with matter. Its eye is turned toward fleeting shadows and does not behold the eternal verities.[49] Many of us, in the words of Mathew Arnold, "never once possess our souls before we die." But the philosopher, the ardent lover of wisdom, has discovered what true life is. He holds converse "with the divine order" and becomes "orderly and divine, as far as the nature of man allows."[50]

Becoming good, then, is a growth into a likeness to the divine. The contemplation of the "Good" is the goal of all knowledge and all striving. He who attains to that knowledge becomes free from every imperfection of the flesh. And this growth into likeness to the divine is one aspect of "recollection." It is a bringing into actuality of the latent true self. The soul which is akin to the Ideas, and therefore to absolute virtue, has within itself the capacity of growing into actual likeness to the "Good". Although degraded by contact with the body, the soul cannot but preserve to some extent its affinity with the Ideas; and, under proper conditions and in varying degrees in different individuals, the soul may still bring itself into actual likeness to the Ideal. Growth into nobility of character *is* recollection of the ethical standards.

To summarize:

The doctrine of recollection is primarily an hypothesis explaining the learning process. It is connected in the *Meno, Phaedo,* and *Phaedrus,* with mythological theories

[49] *Cf. Rep.* VII, 514-515.

[50] *Cf. ibid.* 500D; also *Symp.* 212A.

concerning the pre-existence and re-incarnation of the soul. But it may be stripped of these mythical trappings, which Socrates himself says are not to be taken too seriously; and then the kernel of the doctrine may be perceived. This teaching is that knowledge of the Ideas is never gained from sense experience or from a comparison of particular presentations, but is the original possession of the soul. Sense experience merely serves to *suggest* the Ideas; it does not impart a knowledge of them. Knowledge is natural to man. It is not something alien imported into the mind, but is always potentially present. But the recovery of latent knowledge requires prolonged effort and consistent thinking. The Ideas must be thought out in their causal relations, or knowledge will lack stability. This whole process, which should continue all through life, is identified with recollection.

The doctrine further takes on a mystical tinge as the esthetic ideals are approached. The ἀνάμνησις of beauty has a feeling tone which can not be logically expressed. The esthetic "recollections" are intuitions of realities which are glimpsed but not known. But even this esthetic experience is not fundamentally *higher* than the rational one. It should lead to further investigation and growth in the understanding of truth. This it does by awakening the impulse of philosophic love, which urges on to a deeper rational knowledge. It also leads to the love which desires "birth in beauty" and causes a man to associate himself with other noble minds in a quest for clear and explicit knowledge, for beautiful thoughts and ideals.

The doctrine of recollection is also the foundation of the educational theory of the *Dialogues*. No knowledge of any kind is gained except through the unfolding of latent knowledge already in the mind. It therefore follows that the "pouring in" process of teaching is a faulty

one, based on a wrong understanding of what happens when one *learns*.

Since virtue is identified with knowledge, and knowledge is native to the mind, it is argued that virtue can be taught. It can be evoked because ideal standards are logically prior to the particular acts which exemplify them. It can be taught, furthermore, because these ideals may be brought into clear and distinct apprehension and made to serve as types or patterns which are lovingly contemplated and earnestly imitated. Thus a man grows into the image of the divine "as far as mortal man may."

The whole doctrine is based, so the present writer thinks, on the fact that mind is akin to what is most real. Reality and soul are closely and intimately united, and therefore soul is capable of knowing the Ideas, of contemplating and appropriating the immutable ideals, and of progressively attaining unity with the rational principle of the universe.

IV.

The question of how much of the doctrine of recollection was original with Socrates and Plato is one on which there is no general consensus of opinion. The older conservative tradition attributes it to Plato. Later critics have come forward with other theories. A. E. Taylor suggests that the doctrine as applied to mathematical truth comes from Pythagoras.[51]. Professor John Burnet, on the other hand, credits to the originality of Socrates the application of an old religious belief to science and to the theory of knowledge.[52] When such eminent authorities disagree, it would seem presumptuous for the present writer to pass judgment. But whether the doctrine *as found in the Dia-*

[51] *Cf.* Taylor, A. E., *Plato, the Man and his Work* (New York, 1927), p. 186 note.

[52] *Cf.* Burnet, John, *Plato's Phaedo* (Oxford, 1911), p. 52.

logues is to be attributed to Plato, Socrates or Pythagoras, it is certain that the religious beliefs which suggested it were common property of the mystery religions and were very widely current in the Greek world during the fifth century B. C. Its legends form the substratum of much of the imagination and poetry of the age.

Plato was evidently deeply impressed by Pindar whom he often quoted with respect.[53] In the *Meno,* now generally admitted to be the earliest *Dialogue* in which the doctrine of ἀνάμνησις was propounded, it is Pindar who is cited as authority for the doctrine of immortality and reincarnation. But ultimately these beliefs go back to earlier and priestly sources. As Professor Stewart puts it: "Orphic doctrine refined by poetic genius for philosophic use is the material out of which Plato weaves his Eschatological myths."[54] The chief of these Orphic sources was a popular manual called Κατάβασις εἰς Αΐδου, in which the experiences of the immortal soul until it frees itself by penance from the cycle of rebirths is described, a work which Stewart tells us "lay at the foundation of Pindar's theology, was ridiculed by Aristophanes in the *Frogs,* was the ultimate source of the Νέκυιαι of Plutarch, and Virgil, and greatly influenced neo-platonic doctrine."[55] Pythagorean philosophy, at least in its earlier forms, also held to the doctrines of rebirth and immortality for the individual soul. "The soul of man . . . is a daimonic immortal being that has been cast down from divine heights and confined within the "custody" of the body. It has no real relationship with the body; it is not what may be called the personality of the individual visible man; any soul may

[53] *Cf. Meno.* 81B, also *Rep.* 331B, *Euthyd.* 304B, *Phaedr.* 227B and 236 D, *Meno* 76, *Rep.* 365B, and *Theaet.* 175E.

[54] Stewart, J. A., *The Myths of Plato* (London and New York, 1905), pp. 68-69.

[55] *Ibid.,* pp. 65-66.

dwell in any body."[56] The soul at death is separated from the body, and must first endure a period of purification in Hades. Then it seeks out another body and wanders a long time until it is finally fully cleansed from its imperfections and returns to its original state unhampered by the chains of the body. This is the older Pythagorean tradition, and while the doctrine of metempsychosis was being dropped in "modernistic" circles in Plato's day,[57] it was undoubtedly accepted by some members of the order, the "fundamentalists" so to speak. The tradition at least was well known, and may easily have suggested both the mythical setting and the scientific elaboration of the doctrine of recollection found in the *Dialogues*.

One point, however, is as certain as it is important: the doctrine of recollection found in the Platonic *Dialogues* is very different from the older tradition of a memory of former lives. Very ancient legends declare that Pythagoras himself could remember the earlier incarnations through which his soul had passed and of which he gave information for the instruction of the faithful, and Empedocles is also said to have held that he remembered what he had learned when he was a god.[58] These traditions of memories of former lives were undoubtedly influential in determining the form and language in which Plato expressed his doctrine of reminiscence. But one can scarcely too much emphasize the point that the Platonic doctrine, so far from referring to a memory of former lives, expresses the view that the knowledge of the Ideas is the *original* possession of the soul. This knowledge could not be the result of individual presentations in either a corporeal or an incorporeal existence. *All* experience and *all* learning, according to Plato, presupposes the possession of

[56] Rhode, Erwin, *Psyche*, p. 375.
[57] *Cf.* Taylor, A. E., *Plato, the Man and his Work*, p. 186 note.
[58] *Cf.* Rhode, Erwin, *Psyche*, p. 375 and p. 406, note 96.

universal notions already in the soul. Learning in a previous existence would require ἀνάμνησις no less truly than learning in the present life. (The soul was *never* a blank tablet.) Universals can never be acquired from individual presentations. To suppose that the soul is reminded of something learned in a previous life would merely push the problem back, leading to an infinite regress. "Being independent of any traceable experience, the elemental principles of this science, and of all sciences must have been acquired in some ante-natal period, or rather they were *never acquired* at all. They belong to the very nature of soul herself,"[59] says Alfred William Benn. Ανάμνησις is not a memory of *events* but a metaphorical way of speaking of the most essential function of mind itself. The *Timaeus* (41 D-E) represents the creator as endowing the souls with the knowledge of the Ideas at the time of their creation.

Whether Plato actually accepted the doctrine of the temporal pre-existence of the soul is a debated question.[60] But if, as as been argued above, Plato supposes the knowledge of Ideas to be original in the soul, rather than acquired in earlier lives, the question whether he believed in metempsychosis is relatively insignificant for our problem. Whether Plato and Socrates (either or both) accepted the Pythagorean doctrine of prior incarnations, or the theory of the actual survival of the individual soul in a temporal sense, makes little if any difference to the actual meaning of ἀνάμνησις. As Taylor says: "One should bear in mind

[59] *The Greek Philosophers* (London, 1882), p. 211.

[60] Zeller declares that Plato accepts the main features of the doctrine though he is not sure of the details. (*Cf. Plato and the Older Academy*, pp. 404-405.) Hegel holds that Plato assumed pre-existence and immortality for the world soul only. (*Cf. Werke*, XIV, pp. 207 ff.) Stewart cites Couturat and Coleridge as agreeing with Hegel, and himself inclines to the view that Plato conceived the doctrine of immortality not dogmatically but in myth. (*Myths of Plato*, p. 61.) Taylor thinks that *Socrates* at least is firmly convinced of the fact of immortality though he may be dissatisfied with the scientific proof of it. (*Cf. Plato, the Man and his Work*, pp. 138.)

that ἀνάμνησις does not properly mean in the theory 'remembering' but 'being reminded of something.' Sensible experiences are always 'suggesting' to us ideal standards which none of them actually exhibit."[61] The essence of the doctrine is that the mind is such that it can be "put in mind of the Ideas."

Finally, perhaps we should cite the opinion of Ritchie:

"The doctrine of recollection necessarily implies only the presupposition in knowledge of an eternal element, i. e. an element not dependent upon temporal conditions; it implies the eternal character of thought, not the continued duration of the individual human person, although Plato, himself, at least at some part of his life, may quite well have interpreted it in connection with actual belief in continued personal or at least individual existence."[62]

"The doctrine of recollection means when translated from poetry to philosophy that if knowledge is to be possible, mind in its own nature must be 'akin to' the ultimate nature of things." "In this philosophical sense stripped of its mythical setting it is the doctrine of all idealist theories of knowledge, of all theories that deny that knowledge is adequately explained when it is analyzed into nothing but sensations or impressions made upon a previously blank tablet of the mind."[63]

Like all rationalists, Plato believed in the capacity of the human mind to grasp the true nature of reality—in the the power of reason to apprehend the absolute, true and eternal nature of things. Such a faith in the adequacy of reason requires for its justification some theory of the possibility of knowledge. Due to the mythological background of his age Plato came to express the theory as he did; but in some way every rationalist must show that the

61 *Plato, the Man and his Work*, p. 138.
62 Ritchie, D. G., "On Plato's Phaedo," *Mind*, XI, pp. 353ff.
63 Ritchie, D. G., *Plato*, pp. 79-80.

mind and reality are related, and that the mind has *within itself* the *capacity* for knowing the real. The theory of ἀνάμνησις is akin to all rationalistic doctrines of knowledge, of "innate" or "a priori" ideas, because only in some such manner can the claims of reason be vindicated.

But Plato was not only a rationalist but a rationalist whose temper was tinged with mysticism. His was the rare combination of a poetic with a logical mind. The mythical treatment of philosophical truth had a charm for him. It was because of the poet, as well as the logician, in him that the doctrine of recollection at times assumed a transcendental meaning, becoming a theory not only of knowledge but of art and morality as well. It partook of a rich suggestiveness lacking in the cold reasoned theories of most rationalists. To the love of the mystic and the symbolic that Plato combined with his insistence on clear reasoning and logical argument, must be referred the beautiful setting of the doctrine and its employment in the interpretation of esthetic and emotional experience.

The soil out of which the doctrine of reminiscence grew was the rich religious imagery which was the common heritage of the day. Its roots are to be found in the demand for some theory that could explain the possibility of knowledge, and in the rationalistic temper of Socrates and Plato. But its poetry and perennial charm are due to the mystic and transcendental *mood* of the writer of the *Dialogues*.

V

The doctrine of recollection, as interpreted in this study, appears, as *primarily* a theory of knowledge, which, stripped of its fanciful embellishments, has in its essential spirit been found congenial to many later rationalists who

deny that knowledge can be imported into the mind as into an empty closet. It would be fascinating to trace the whole Platonic tradition down through the centuries, but that is of course out of the question; for it would necessitate writing a large part of the history of philosophy from Plato's time to the present. In order, however. to bring into sharp relief the *essential* import of the doctrine and to show how vital its spirit is even in present day philosophy, let us cast a glance at but one recent thinker who very clearly exhibits a Platonic influence—Josiah Royce.

In one of his early works, Royce discusses the problem of error in a way which brings to mind the puzzle of the Sophists about the possibility of knowledge and its solution in the doctrine of reminiscence. The assertion that one can be in error, he says, involves one in baffling contradictions. How can one make an erroneous judgment? Either the judgment which is in error has an object or it has none. But "If it had none it was no error. If it had one, then either it knew what its object actually was, or it did not know what its object was, or it partially knew and partially did not know what its object actually was."[64] In the first case, the judgment must have been an identical one, like *a pain is a pain;* here there can be no error for the judgment can not fail to agree with its object. If, on the other hand, the judgment does not know its object, it can not err for it can not fail to agree with an object which it has not. For a judgment about an absolutely unknown object has no meaning, and can therefore not be said to be an error. But if the judgment knows its object well enough to mean or intend just that object and no other, but not enough to insure agreement with the object, then:

"It is somehow possessed of just the object it intends, but yet does not know in reality what it does intend, or it

[64] *The Religious Aspect of Philosophy* (Boston, 1885), p. 428.

would avoid error. Its object is in so far as unknown to it, no object for it; and yet only in so far as the object is thus unknown can it be erred about."[65]

Royce expressly refers to the discussion of the possibility of error in the *Theaetetus,* where no definite conclusion was reached, although a valuable suggestion was made in the figure of the aviary with its distinction between actual and latent knowledge. Royce's solution lies in the affirmation of "an all-inclusive, absolutely clear, universal and conscious thought of which all judgments, true or false are but fragments, the whole being at once Absolute Truth and Absolute Knowledge."[66] As long as the knower is considered as an isolated individual and the object "a thing out there," with no total experience which unifies the two, there can be no such thing as error.

"What then is an error? An error, we reply, is an incomplete thought, that to a higher thought which includes it and its intended object, is known as having failed its purpose that it more or less clearly had, and that is fully realized in this higher thought. And without such higher inclusive thought *an assertion has no external object,* and is no error."[67]

Later in his *Spirit of Modern Philosophy,* Royce attacks a similar problem and arrives at a like solution. He asserts that when one thinks of an object, one not only must have in mind an idea which resembles that object but must *consciously mean* to have his idea resemble that object. But it is impossible to mean, aim at, possess, pick out, or identify what is not in some sense, already present to the hidden self. And just as "the true believer, meaning the truth that he believes, must be in real relation thereto, even so the blunderer, really meaning, as he does, the fact

[65] *Ibid.,* p. 429.
[66] *Ibid.,* p. 396.
[67] *Ibid.,* p. 425.

yonder, in order that he should be able to blunder about it, must be in so far, in the same relation to truth as the true believer. His error lies in missing that conformity with the meant object at which he aimed. None the less, however, he really did mean and really did aim; and therefore he is in error because *his real and larger self* finds him so."[68]

Thus, Royce's theory of the learning process as a search for meanings which must in some way already be in the possession of the deeper self, states in a different way and from a slightly more subtle metaphysical angle the old doctrine of "reminiscence" that we find is still the process of bringing into consciousness what is essentially *in* the soul, a coming "into her own" of the deeper nature of the self. The soul is "akin" to all reality and for that reason is able to "mean" that reality and to approximate toward its truth.

Royce, furthermore, in a striking passage,[69] uses the experience of empirical memory to explain, or rather to illustrate, the paradox of the learning process, just as did Plato in the *Phaedo*. It need not be supposed that Royce was in this consciously imitating Plato. Much more likely seems the explanation that there is a feeling tone, a sense of satisfaction, of ownership, of *re*cognition in the attain-

[68] *The Spirit of Modern Philosophy*, pp. 375f.

[69] *Op. cit.*, pp. 371f.: "So paradoxical seems this final assertion of idealism that I cannot hope in one moment to make it very plain to you. It is a difficult topic upon which I have elsewhere printed a very lengthy research (*The Rel. Aspect of Phil.* Ch. XI.) wherewith I cannot here trouble you. But what I intend by thus saying that the self which thinks about an object, which really, even in the midst of blindest ignorance and doubt concerning its object still means the object—that this self is identical with the deeper self which possesses and truly knows the object—what I intend thereby, I can best illustrate by simple cases taken from your own experience. You are in doubt, say, about a name you have forgotten, or about a thought you just had, but that has now escaped you. As you hunt for the name or the lost idea, you are all the while sure that you mean just one particular name or idea and no other. But you don't yet know what name or idea this is. You try and reject name after name. You query, 'Was this what I was thinking of, or this?' But after searching you ere long find the name or idea, and now at once you *recognize* it. 'Oh, that,' you say, 'was what I meant all along only—I did not know what I meant.' Did not know? Yes, in one sense you knew all the while,—that is your deeper

ment of truth which is analogous to the recall of what has been forgotten—a feeling tone which makes the term "recollection," as a term for the learning process, an entirely natural and instructive one. Metaphors often express a given meaning more completely than reasoned argument. It is not strange, therefore, that Socrates should designate the paradox of the process of attaining knowledge by the word ἀνάμνησις.

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self, your true consciousness knew. It was your momentary self that did not know. But when you found the long-sought name, recalled the lost idea, you recognized it at once, because it was all the while your own, because you, the larger self who owned the name or the idea and were aware of what it was, now were seen to include the smaller and momentary self that sought the name or tried to recall the thought. Your deeper consciousness of the lost idea was all the while there. In fact did you not presuppose this when you sought the lost idea? How can I mean a name, or an idea, unless I in truth am the self who knows the name, who possesses the idea? In hunting for the name or the lost idea I am hunting for my own thought. . . . The escape from the prison of the inner self, is simply the fact that the inner self is through and through an appeal to the larger self. The self that inquires, either inquires without meaning, or if it has a meaning, this meaning exists in and for the larger self which knows."

WANG YANG MING'S DOCTRINE OF INTUITIVE KNOWLEDGE[1]

1. *The meaning of the term* (良知) *as determined by Wang's usage.*

In his translation of Wang Yang Ming, Henke has tried to differentiate between the various shades of meaning in which the single term "liang chih" (良知) is employed. He has given us, as its equivalents, "intuitive knowledge," "the intuitive faculty," and "intuitive knowledge of good." To test for ourselves the grounds on which this differentiation rests let us examine two typical passages. The intuitive faculty (良知) is in man's mind. It has pervaded all generations of the immemorial past, filled heaven and earth, and was in no wise different from what it now is. It knows without any cogitation. Constantly and easily it knows dangerous paths. It is able to act without learning. Constantly and easily it knows what things tend to hinder its progress. It strives first for heaven-given principles (天理) and does not trespass them" (p. 292). The description here of "liang chih" as the organ of general knowledge which is an intrinsic part of man's native endowment completely fitted for its function by nature, immediate and untaught, supports Henke's rendering of "the intuitive faculty." Again Wang says: "In

[1]Throughout this study use is made of the dependable translation from the Chinese by Frederick Goodrich Henke: *The Philosophy of Wang Yang-Ming,* The Open Court Publishing Co., 1916. The page numbers in the body of the text refer to this volume.

my work I have used great effort and as a result view the intuitive faculty (良知) as more personal and important than I formerly did. It really is the great root from which grow all human actions and the universal path which all should follow. Put it aside and there is no learning to discuss" (p. 410). This passage well illustrates the difficulty of interpretation. Henke uses the phrase "the intuitive faculty," described as "personal" and "the root" of human actions. However the rendering "intuitive knowledge" would do equally well and would seem to fit in better with the idea of its being "the universal path" all should follow. As a matter of fact we probably have a blending of all the connotations in this passage. "Liang chih" (良知) is constantly identified with "tien li" (天理) "heaven-given principles, or moral law," so that the moral aspect of "intuitive knowledge of the good" is also implied. In addition, it is indicated that in this doctrine, which in its most general aspects we shall call "intuitive knowledge," we have the recognized core of Wang Yang Ming's thinking, the ramifications of which are extensive indeed. It is very clear that the term is also employed as an ultimate principle. We shall therefore be called upon to relate the doctrine of intuitive knowledge to Wang's metaphysics before we have done justice to its implications.

Wang's moral interest appears more explicitly in the following passages, which also show the philosophical lineage of our philosopher's thinking. "The Book of Changes" says, 'Knowing the utmost one should reach it. He who knows the utmost really knows. He who reaches it reaches the utmost.' It is not what later scholars[2] call 'filling and extending knowledge' but extending to the utmost the mind's intuitive knowledge of good (良知)—the knowledge of good which Mencius calls 'the good-evil mind'

[2]The reference here is to the school of Chu Hsi, who lived from 1130 to 1200 A. D.

(是非之心) and which all people have. The good-evil mind does not need to deliberate in order to know, nor does it need to learn in order to be able to act. It is for this reason that it is called intuitive knowledge of good (良知). It is the heaven-given nature, the original character of the mind. It is naturally intelligent and clearly conscious. Whenever any purposes or thoughts are manifested, they are all known and recognized by the intuitive faculty (良知). If they be good the intuitive faculty naturally knows. Are they evil? This, too, the intuitive faculty naturally knows" (p. 212-213). Here our term appears as conscience, the maker of moral judgments. That Wang considered this the meaning of his doctrine, of first importance for understanding his teaching, is shown by his statement: "'Liang chih' should be designated as the intuitive knowedge of good, for in this way others will more readily apprehend the meaning" (p. 425). It is further characterized as a norm for guidance in perplexity. "The intuitive faculty is to changing circumstances like the compass to the circle" (p. 316; *cf.* pp. 442-3, 455-6).

In discussing the relation of intuitive knowledge to thought and reflection, Wang says: "The intuitive faculty (良知) is the point of clearness and consciousness which heaven-given principles attain. For this reason the intuitive knowledge of good is to be identified with natural law. Reflection is the manifestation and use of the intuitive faculty (天理). The reflection of the intuitive faculty in action is naturally clear and simple, for the intuitive faculty is by nature able to know" (p. 287). Over against the type of mysticism and empty meditation practised by the Buddhists for the sake of reaching enlightenment, Wang maintains that "the abstract and pure intelligence and clear realization of the mind are the original intuitive knowledge of good (良知)" (p. 310). This inclusion of the higher

intellectual processes in the functioning of 良知 makes clear that Wang is putting forward intuition as an explanation of how the mind, including reason, works; it is not for him a special type of knowledge with superior claims over against the knowledge arrived at through the discursive reason, as it is for Bergson.

2. The mind universe of Wang Yang Ming. A monistic idealism.

The fundamental presupposition of Wang as he approaches the epistemological problem is that man's mind is the key to the universe. "Man is the mind of heaven, and earth; mind (心) is the lord and master of heaven, earth, and all things; mind is heaven. In saying 'mind' you have thereby suggested heaven, earth and all things, and have done it in an intimate, simple way" (p. 425). Again: "The mind of man is heaven and it is the abyss, for there is nothing that does not belong to the original nature of the mind" (p. 154). Wang is able thus to equivalue mind and heaven because heaven (天) had become identified with the moral principle, li (理) in the Sung philosophy of Chu Hsi which carried through a tendency already evident in the early period of Chinese thinking toward making Heaven a term transcendent and inclusive of the physical connotation. In the quotations above we have three of the philosophical hierarchy of terms whose interrelations in Wang's writings it is important to grasp: Heaven, (天) nature, (性) mind (心); to them should be added a fourth, reason or truth (道).

Of these four, I consider the moral conception of Heaven (天) as most completely transcendent. It is the Confucian "arbitrer of destiny." Life and death are determined by it. Its laws and decrees are to be followed by

every man. It is the source of the immutable moral principles embodied in natural law (天理) or heaven-given principles. This is the usual reference of the term in Wang Yang Ming's philosophy. Heaven is the source of nature (性), which is the second term of the hierarchy. A classic definition of nature is, "That which I have received from heaven is my nature." Mencius regarded this nature as essentially and potentially good in every man. Around this term the battle of moral philosophy then raged down to Wang. The latter took sides with Mencius and with what had become the orthodox view of human nature, for Chu Hsi, in his extended philosophical work on "Human Nature," had identified nature with "li" (理), the moral principle in the universe, and not with "chi" (氣), the material principle. Wang writes, "Heaven's decrees for me are my mind and nature" (p. 301). Original nature then, he regards as the embodiment in man of the cosmic moral law. In discoursing on the meaning of "nature" he maintains: "Benevolence, justice, propriety, and wisdom [the moral categories as given by Mencius] are nature manifesting virtue. There is only one nature and no other. Referring to its form, it is called heaven; considered as ruler or lord, it is called Shang-ti (God); viewed as functioning, it is called fate; as given to men, it is called disposition; as controlling the body, it is called mind" (p. 83).

In this passage Wang has coupled the third of our hierarchy, mind (心), with nature in such a way as to suggest that for him heaven, nature, and mind are interchangeable, all depending upon the aspect in question.

But other passages show conclusively that mind is his more inclusive term. The moral interpretation of heaven involves prior idealistic assumptions which seem to be recognized when he says that this cosmic moral principle

(天理) is the same thing as mind, for "there is nothing in the universe independent of mind" (p. 50; *cf.* p. 358). "Though the mind in one aspect controls merely the body, it really exercises control over all the principles under the heavens." The mind is principles, they are one and the same thing (*cf.* p. 181). Thus in the passages where mind is assigned a seemingly subordinate place Wang will be found to be speaking of mind from the psychological angle. When dealing with the cosmos, mind is made the ultimate principle. The principles of all things, therefore, are not to be found external to the mind, for the mind is itself principles (天理). Upon this his whole position rests. We are justified then in taking mind as the inclusive and interpretative category.

The fourth term, truth, reason, or the path of duty (tao, 道) has a long philosophical history and cosmic connotations. It is often difficult to determine whether it is used in the sense of a cosmic principle or of a way of moral achievement, especially because the two ideas constantly blend. More often than not the double sense is carried through the Chinese writings. Wang is compelled to face this term, just as the New Testament writers did the term Logos. He similarly assimilates it to his own ruling conception rather than being dominated by it, but of course not without some concessions to tradition. He said: "Truth (the path) [道] has no form; it cannot be grasped or felt. . . . . When the individual once comprehends, what is there that is not truth? People for the most part think that their little corner of experience determines the limits of truth, and in consequence there is no uniformity in their discussions. If they realized that they need to seek within in order to understand the nature of the mind, there would be neither time nor place that would not be pregnant with truth. . . . . The mind (心) is itself truth (道) and

truth is heaven (天). He who knows the mind thereby knows both truth and heaven" (p. 96). Thus by these interrelations, Wang has given us, in Confucius' phrase which he constantly quotes, "one all-pervading unity,"—a mind universe.

We have now to see what place his doctrine of intuitive knowledge is given in this "all-pervading unity." Indeed the intuitive faculty of the mind is itself an expression of this single mind principle. "In heaven and earth, there is but one nature, one principle, one intuitive faculty, one task" (p. 440). "The intuitive faculty makes us acquainted with all things. It is spirit, it is Heaven, it is the Supreme Ruler. It is truly the spiritual intelligent substance of heaven and earth, the mysterious wonderful manifestation of man" (p. 263). With such an interpretation of the intuitive knowledge which rises from man's nature, we are prepared to find it made a principle for uniting all facts of experience into an idealistic mind-universe. Here Wang tries to coerce the stubborn facts of the material world which are opposed to such a theory. In explaining the Great Learning, he writes: "The adult is an all-pervading unity—one substance—with heaven, earth and all things. . . . . The benevolent nature of the mind is of this type. It is one with the universe." This is true in a smaller degree of the youth. By the exhibition of sympathy when seeing a child in danger or animals frightened, or plants destroyed, or tiles and stones broken,—he shows that his benevolence is one with all things. They are of the same substance. Even a youth will have this type of mind, which implies a source in heaven-given nature" (*cf.* p. 205). This odd argument is given again in a form a trifle nearer to the Western formulation of the idealistic argument. "The intuitive knowledge of man is the intuitive knowledge of plants and stones. If plants and inanimate objects lack the intuitive

knowledge of man, they cannot be plants and inanimate objects. . . . . If heaven and earth lack the intuitive knowledge of good which man has, they cannot exist. But heaven, earth, and all things are *ab initio* one with man. The point at which this great unity (the absolute) manifests intelligence in its highest and best form is called the little intelligence and cleverness of man's mind. Wind, rain, dew, thunder, sun, moon, heavenly bodies, animals, plants, mountains, rivers, earth and stones, are of one structure with man. It is for this reason that the grains, animals and other things are able to nourish man" (p. 168-9). Wang also attempts to answer the mind-body problem. The body is made up of the senses and limbs, but without the mind the body cannot function. The mind, on the other hand, must utilize the body. No mind, no body; no body, no mind, is his statement. His conclusion is that they are a unity which in its last analysis comes back to mind as ultimate (*cf.* p. 145-6).

The completion of his case for monistic idealism takes on the form of an epistemological argument to which we now pass.

3. *Intuitive knowledge and the knowledge problem.*

To understand Wang's peculiar treatment of the problem of knowledge it is necessary to turn first to the interpretation of a short but all-important passage in the Great Learning which the thinkers of the Sung period had seized upon as offering a logical and practical method of philosophic learning.[3] The passage reads: "The ancients who wished to illustrate illustrious virtue throughout the kingdom first ordered well their states. Wishing to order well their states, they first regulated their families. Wishing to

[3]For the influence of this passage, see Dr. Hu Shih's Introduction to *Development of Logical Method in Ancient China*, Oriental Book Co., Shanghai.

regulate their families, they first cultivated their persons. Wishing to cultivate their persons, they first rectified their hearts. Wishing to rectify their hearts, they sought to be sincere in their thoughts [Mr. Hsu Pao Ch'ien suggests, "to realize their ideas"]. Wishing to be sincere in their thoughts, they first extended their knowledge to the utmost. Such extension of knowledge lay in the investigation of things." Then follows a paragraph which begins: "Things being investigated, knowledge was extended to the utmost." Step by step the argument is retraced up to the highest political consummation in the good order of the state. The point of controversy with Chu Hsi lay in the interpretation of the key phrase "ke wu" (格物), translated "the investigation of things," which Wang contended must be done in and with reference to the mind, and not in external things. But according to both schools the character "wu" (物) "things," is identified with the character "shih" (事) "affairs," true to the dominant humanistic interest in Chinese thinking. So with both thinkers this interpretation led them away from the consideration of physical nature and toward the emphasis of the ethical and practical aspects of knowing. This explains the fact that, when talking about "wu" which is inclusive of physical things, the arguments for the nature and sphere of knowledge are built upon the meaning "affairs." This is well illustrated in a passage, typical of Wang's whole method, in which the relation of knowledge and the idea to "things" is set forth. "The mind originates the idea, and the nature of the idea is knowledge. Wherever the idea is, we have a thing [Mr. Hsu suggests, "the object the idea points to is a thing"]. For instance, when the idea rests on serving one's parents, then serving one's parents is a 'thing'; when it is on serving one's prince, then serving one's prince is a 'thing'; when it is occupied with being benevolent to the

people and kind to creatures, then benevolence to the people and kindness to creatures are 'things'; when it is occupied with seeing, hearing, speaking, moving, then each of these becomes a 'thing'. I say there are no principles but those of the mind and nothing exists apart from the mind" (p. 59). By this fundamental humanistic twist in Chinese thinking, Wang Yang Ming executes a flank movement and, by making his objects largely ideas or activities, gets around the difficulties really involved. Knowledge itself calls for no explanation from him, for "knowledge is the nature of the mind" (the mind's essence). The mind "naturally is able to know" (p. 60). Such knowledge is intuitive and not attained from without.

The question on which he and Chu Hsi split remains to be answered. Are the objects of knowledge and principles external to the mind or not? In reply to this point we get the following: "You have not yet arrived at a full understanding of the principles underlying the investigation of things. How can mind have an internal and external? . . . . The task is confined to the original nature and this is *ab initio* devoid of internal and external" (p. 149). (One must constantly keep in mind Wang's interpretation of "investigation of things"—the task—as "the correction of the ideas in the mind to bring out the original intuitive knowledge of the mind.") "Heaven, earth, and all things are within the manifestation, use and activities of my intuitive knowledge" (p. 168). On the whole he pushes aside the question of the knowledge of external objects and insists that the whole and only important task is the extension of the intuitive knowledge of good which belongs to man's nature and is in essence co-extensive with the whole moral truth-structure of the universe. He likens intuitive knowledge to the physical heaven. Whether you get a full view of it or only a glimpse through the ob-

structions of houses and walls, it is all the same. So with the sage, he only needs to know natural law (天理). "The things of the earth—sacred utensils, measures, numbers, grasses, trees, birds, and animals without number—the sage understands by nature. Why should he be able to know them completely?" (p. 156). With knowledge of principles, it is a simple matter to know the case in which the principles are manifested.

But the relation of knowledge and the mind to physical objects could not escape question even by those sympathetic with his world-embracing idealism. While he fails to analyse the problem of sense perception, his statements remind us of Berkeley's form of the idealistic argument. Asked by followers about the flowers among which they were walking, and about the relation of these to their minds, Wang replied: "When you cease regarding these flowers, they become quiet with your mind. When you see them, the colors at once become clear. From this you can know that these flowers are not external to the mind." In the same passage he says that the senses and the mind have no structure of their own but use the structure of things as their structure. The two, mind and things, are to be identified. And with this answer he leaves the question.

While Wang may not impress us by his grasp of the problem of subject and object, he exhibits a strikingly modern and clear insight into the relation of knowledge and action. After his idealistic world view and his doctrine of intuitive knowledge, he is best known for his vigorous argument for the "Unitary Nature of Knowledge and Practise" (知行和一). Here again is an emphasis coming out of the problems of the time. The tendency to pedantry, bookishness, and debate for its own sake, developed in the followers of Chu Hsi, came in for the sharpest criticism by Wang. He recognied the pedagogical value of

the separation of the terms "knowledge" (知) and "practise" (行) as a corrective to careless action without thought knowledge, but he refused to recognize as knowledge that which was not intimately related to action. In their original character knowledge and practise are one. "No one who really has knowledge fails to practise it" (p. 53). "Knowledge without practise should be understood as lack of knowledge" (pp. 281, 306). Yang Ming further defines the two as only two aspects of the same task which cannot be realized in isolation from one another. The two are related as beginning and end of one process. "Knowledge is the purpose (here "master idea") of the act, and practise is the carrying out of the knowledge" (p. 55). In support of his position, he uses analogies which contain implications of the further relation of action to knowledge which he did not fully utilize, namely that learning comes from doing. In speaking of learning and practice being one and the same thing he gives the illustration of the archer. "He who learns archery must certainly take the bow and fit the arrow to the string, draw the bow and shoot." Thus the beginning of learning is surely practice. So in learning filial piety or in the investigation of any principles leading to the extension of intuitive knowledge, practise is essential. In essence it is all one task and does not allow of separation.

Through this doctrine of the unitary nature of knowledge and practise he indicates the relationship of intuitive knowledge to experience, and so touches on a problem which has bulked large in Western philosophy. The preceding treatment makes it perfectly clear that he regards the knowledge afforded by the intuitive faculty as *a priori*. It is not derived from experience. "The original nature of the intuitive faculty from the very beginning cannot have the least added or taken away from it" (p. 237). But its

proper functioning requires experience for its unfolding, and development by the possessor through the method of "the investigation of things" (rectification of the ideas in the mind). "A person certainly must have experienced pain before he can know what it is. Likewise to understand cold one must first have endured cold." To understand filial piety and respectfulness (to elders) one must actually have experienced them. In such experience the intuitive faculty reacts spontaneously in the right way and affords the appropriate knowledge of the good. Furthermore, in the extension of this intuitive knowledge to the utmost (致知), i. e. in learning its widest application in the affairs of life, experience is essential. The busy life of the official, with his magisterial duties and many affairs, is the opportunity for learning, and for the extension of his intuitive knowledge. "If the unenlightened scholar really is able to investigate carefully the fundamental principles of the mind as experiences come and go and does this in order to develop the original intuitive faculty, though dull, he surely will become intelligent, and though weak, surely will becomes strong" (p. 309). "Though in the experiences of mutual intercourse of the day there be innumerable beginnings, there is nothing which is not the result of the progressive manifestation of the intuitive faculty. Eliminate the experiences of mutual intercourse and thereby the development of the intuitive faculty is made possible. For this reason the task is one" (p. 288). Thus, while making the most sweeping claims for the adequacy, perfection, and scope of the intuitive faculty in its original purity, Wang recognizes that experience enters into its development and that effort and cultivation are required if the inherent capacities of knowledge are to have their fruition.

4. *Moral aspects of intuitive knowledge.*

As has already been suggested, Wang's major interest is on the side of moral knowledge. So dominated is his thinking by this ethical interest that it has been impossible to avoid dealing with the side of moral intuitions in treating of the other aspects of his doctrine. It only remains to draw together the conceptions which have been emerging and to make explicit the meaning and scope of intuitive knowledge of the good.

The original nature of the mind he considers to be the continuous theme of the Four Books and Five Classics. This nature is the highest good; its original condition is devoid of all evil. It is the embodiment of (or is) moral principles (天理). So, "When Mencius talks about 'exhausting one's mental constitution in order to understand one's nature and heaven' it implies that we are born with knowledge of our duties and carry them out with ease" (p. 57). "The truly filial mind is the root, the many details of duty are the branches and leaves" (p. 52). The highest virtues, he repeatedly contends, are innate to the mind (the mind's essence). So when we thoroughly investigate the moral principles in the mind we know the virtues in their perfection. Love, righteousness, propriety, knowledge, are all original to the mind and not infused from without. "The human mind naturally finds pleasure in the principles of righteousness, just as the eyes take pleasure in color and the ears in sound" (p. 123). The intuitive faculty naturally knows the differences between good and evil, and this faculty and knowledge belong to all men. Thus, not only the sense of right and wrong which Kant put under the "categorical imperative" is native to man's mind, but the moral categories and judgments themselves are all innate, simply awaiting the appropriate situation to rise to consciousness.

Tranquillity is the state in which the original intuitive faculty acts with perfect clearness and certainty. But there are factors which come in to obscure the natural functioning of the moral intuition. These are selfishness and passion or desire. There must accordingly be constant care to keep the original intuitive knowledge of good from the obscuring effect of personal judgments and the stirring of private passion, for "selfish desire increases every day like the dust of earth. If one neglects to sweep for a day, another layer is added" (p. 94). While regarding moral judgments as innate, Wang enshrines the social ethics of China in the structure of his original nature and condemns individual opinion, over against it, as error and evil because it departs from the norm. This affords a strong corrective to a doctrine which might otherwise easily have tended toward extreme individualism. According to Wang's conception, evil is not something original. Our differentiation of good and evil is subjective. "Good and evil are not all in things themselves. They are only in your mind. Obedience to natural law is to be identified with good and the stirring of the passion nature is evil" (pp. 115-7). "That called evil is not originally evil, but consists in exceeding or in failing to realize nature" (p. 157). From the moral point of view, evil is evil; from the metaphysical point of view, it has no reality.

A natural question which calls for philosophic discussion follows from this view of the potential goodness of human nature. How come the differences in attainment among men? How is it that some men rise to the moral heights of the sage and others remain on the common level? The sage is such, Wang replies, solely because his mind is dominated by heaven-given principles and not hampered by passion. The difference in men he likens to the difference in the fineness of metals. It is a matter solely of qual-

ity. Men's dispositions, however, differ. "As regards to the truth (tao) some are born with the knowledge of it; some practise it with natural ease; some know it by study, and practise it from a desire for advantage. The remaining ones surely belong among those who, if others succeed by one effort, must use a hundred efforts" (p. 112). The sage is "a man of unified ability. The point of his ability is just his intuitive faculty. The inability of the common people is due to a lack of extending knowledge to the utmost" (p. 170). Wang delights in using the figure of the metal mirror to illustrate these differences. The mind of the sage is like a bright mirror, the mind of the ordinary man like a dull mirror. When the mirror is wiped and polished it reflects perfectly. However, his emphasis everywhere lies on the common ground between the sage and the common man, on the intuitive faculty which both possess. The only difference lies in the ability of the sage to extend his intuitive knowledge of good to the utmost, while the common people are unable to do so. All possess the same intuitive faculty; and the path and the task are the same. Similarly as regards the differences between youth and adult. These are simply a matter of development. In short, differences in moral attainment (identified with knowledge which is moral in character) are not due to differences in original nature, but to differences in temperament, opportunity, growth and personal effort in the extending of one's moral intuitions.

We have now traced the doctrine of intuitive knowledge in its important aspects. Such knowledge, for Wang Yang Ming, covers the whole knowledge function of the mind—perception, memory, reflection, rational and moral judgments, in so far as these are considered to be true manifestations of man's original nature. From the aspect of the knowing function, we have the "intuitive faculty,"

from the aspect of that which is known, we have, broadly, "intuitive knowledge," or, when the moral bearing is more specific, "the intuitive knowledge of good." Because it is the original nature manifesting itself, and the embodiment of heaven-given principles, or ultimate moral law, intuition is certain in its discernment of truth and in its judgments of right and wrong. It is practically identified with mind, and becomes an ultimate metaphysical principle on which Wang builds a monistic universe. In practical life it must be guarded from the obscuration of private aims and selfish desire; and, while the common gift of all men, it flowers in its perfection only when study, cultivation, and practise in daily affairs are brought to bear in order to extend its innate principles to their fullest application. Then the possessor of intuitive knowledge achieves to the lofty heights of the sage.

5. *Some comparisons with Western thinkers.*

(a) In selecting those in the West with whom we may most justly and profitably compare Wang Yang Ming, we should turn to those who occupy an analogous position in the Western development of thought. The Sung school followed upon a general artistic and literary renaissance in the T'ang Period, when Chinese life drew fresh stimulus from Buddhism. In the West, Bacon and Hobbes were stimulated by the renaissance and set new methods for philosophy. The parallel, of course, cannot be followed in any detail. It is at least an interesting coincidence that the rationalists in the West and Wang Yang Ming in China set forth doctrines of intuitive knowledge in succession to roughly similar movements of thought.

The dates of the first of the rationalists, Descartes (1596-1650), are only a little more than a century removed from those of Wang Yang Ming (1472-1529). Descartes,

too, comes to his philosophical method through a revolt against tradition and the diffused learning of his time. He says: "After I had spent some years thus studying in the book of the world, and trying to gain some experience, I formed one day the resolution to study within myself, and to devote all the powers of my mind to choosing the paths which I must thereafter follow." Descartes, stripping himself of the accepted ideas of the time and starting *de novo* bases his whole philosophy on the certainty of the self. His method involves intuition and deduction. He analyzes out the clear and axiomatic principles which at each step of the argument are self-evident, and thus of the same quality as his fundamental axiom, "Because I think, I am." Thus each step in his deduction must be intuited and when seen to be clearly true the resulting judgment takes the rank of an innate idea. Descartes took his stand on the undeniableness of consciousness as directly felt and experienced. There appears therefore to be quite a parallel to Wang Yang Ming. Both men react from tradition and place their dependence on inner certainty. For both, mind (consciousness with Descartes) is fundamental. For both, the truth and certainty of ideas depend upon the recognition of intuition. The differences however are characteristic. Descartes finds the axioms of mathematics and logic most clear; Wang, the truths of morals. Descartes is preoccupied with the mind-body question; Wang is absorbed in a controversy over method and the internality of truth. Descartes has the problem of God and the world to solve; Wang does not glimpse this problem but boldly makes mind as it appears in man co-extensive with the universe.

Turning to Spinoza, we find little in common with the metaphysics of Wang. (A comparison with Chu Hsi would be interesting.) But Spinoza has a place for in-

tuition at the summit of his metaphysical speculation. In the intellectual love of God one may enter into an almost mystical union with God, whose laws of necessity bind all that is in perfect, if rigid, order. The truths to which we arrive by laborious reasoning may also take on another form, an immediate flash of intuition, in which they are seen to flow from one truth, God. For Wang, though ideas of God or of mystic union were not philosophic grist, this claim for intuition would arouse no question. There is nothing to which the intuitive faculty may not reach. The sage, by the power of his intuitive faculty, would with ease immediately possess the highest truths, identical with the truth of heaven and earth.

Leibniz, like Wang Yang Ming, was a man of the world, busy in the political life of his time and so bringing to his thinking the background of practical experience. His conception of matter in terms of monads, is indeed far removed from Wang's view, yet he regards consciousness as continuous with all reality and as present in a confused form in each monad. His view of knowledge comes nearer to that of Wang. In his *New Essays on Human Understanding,* criticizing Locke, he holds that "the reaction of the mind itself in knowledge is the essential thing. Not that the universal ideas exist consciously in the mind at birth, but that they exist implicity, involved in the sensations themselves. The mind is already active and disposed in certain directions. Instead of everything being due to the influence of outer objects, there is nothing due to them. Life develops from within by the laws of its own nature, and so sensations themselves are innate. It is necessary to take into account first of all the mind itself with its native character, natural inclinations, powers, and dispositions."[4]

The similarity is even more striking in the field of

[4]Rogers, A. K., *A Student's History of Philosophy,* p. 320.

ethics. According to Leibniz: "There are certain principles native to the soul which cannot be demonstrated, but from which other moral truths necessarily follow. They operate unconsciously in us as instincts, but we may become aware of them. . . . . Moral instincts guide men directly and without deliberation, but not irresistibly, for they may be corrupted by passions and by evil habits. . . . Although tradition, habit, and education help in developing such tendencies of the soul, they are ultimately rooted in human nature itself. Attention and method are necessary to bring them to the surface, and even scholars may not be fully conscious of them."[5] So close is the similarity in both thought and phraseology that one might well believe he were reading a page out of the writings of Wang Yang Ming himself.

As for Bergson, who is a modern exponent of intuition, while minor similarities might be pointed out, the main characteristic of Bergsonian intuition as a prior and superior way of knowing, getting wholes and reality in a manner denied to the analytical intellect, prevents any intimate linking of the two views. Further, the whole development of biology and modern psychology has intervened to alter the method of philosophy and the type of thought. Other comparisons might be of value, as for example the comparison of Wang's idealism with that of Bishop Berkeley. However, holding ourselves to the main theme of intuitive knowledge, the comparisons which throw most light on Wang Yang Ming's ideas, as I see it, are those already made with the rationalists, especially with Leibniz.

(b) Höffding, in his discussion of Bergson,[6] summarizes the four meanings of intuition in the history of Western philosophy. They are: (1) concrete intuition—such as sensation, memory, imagination; (2) practical in-

[5]Quoted from Thilly's *History of Philosophy*, pp. 374-5.
[6]*Cf. Modern Philosophers*, pp. 229 ff.

tuition—judgment, spontaneous decision, a certitude produced by natural suggestion; (3) analytical intuition—discrimination, immediate knowledge of relations; (4) synthetic intuition—intuition of totality or connection. This intuition Spinoza places at the summit of thought. How nearly does the doctrine of intuitive knowledge in the philosophy of Wang Yang Ming fit into this Western classification?

It is evident that the functions of intuitive knowledge we have been describing very largely correspond to the first two types, to concrete and practical intuition. Sensation, as we have noted, is included in Wang's intuition. And when Wang describes the intuitive faculty by saying, "Now, the intuitive faculty is by nature characterized by quick apprehension, clear discernment, far-reaching intelligence, and all-embracing knowledge" (p. 455), all knowledge processes which we recognize as immediate must be included. There is a possible conscious inclusion of memory as such when it is claimed for the man who has developed his intuitive faculty, that "he is fully acquainted with the past and present." The interpretation here, however, is doubtful. The spontaneous native character of the action of the intuitive faculty very largely corresponds to this first head. The side of moral knowledge prominent in Wang's views seems to be covered by the second type suggested, the practical intuition. It knows without cognition. Constantly and easily it knows dangerous paths and what tends to hinder its progress. "The intuitive faculty immediately recognizes whether the thought purposes which are manifested are good or evil." The third type of intuition, referred to as analytical, I understand to apply especially to intuitions of logical relations. Now the forms of knowledge and categories which were held by Kant to be *a priori* were the outcome of a high development in the

West of the study of logic. China has never developed intellectual logic. Her logic has been a practical and ethico-social discipline which has often seemed to us to be not logical at all. It is not built on the necessities of pure thought but on the necessities of life in a social order developed along its own characteristic lines. There were times when logic as logic received attention, as in the work of the Neo-mohists and Hsün Tzu, but the doctrines of these scholars were not followed up in the post-Chin period. Wang was not interested in the problems of pure logic as such. However, since he clearly includes the functions of the intellect in intuitive knowledge, the immediate discrimination of relations may also be said to be implied in his doctrine. One might therefore also expect some examples of the fourth type of intuition, synthetic intuition. I believe Wang did recognize this aspect of intuition. The intuitive faculty when extended to the utmost gives us a single principle, a whole world. Wang repeatedly gives explanations in which he unifies the whole of life, and does so by means of intuitive knowledge as the center and organizing principle of the mind. The world of moral duty is unified through the same means. The synthetic intuition or judgment which comes at the end of the more detailed processes of study or thought is also recognized. "When you cannot think coherently do not immediately cease thinking, for there should be points at which you suddenly understand" (p. 344). The intuitive faculty "is quite naturally the point of clear realization" (p. 441). And thought, the constant requirement of method and study to secure the fullest functioning of the intuitive faculty seems to call for the recognition that the intellectual process which culminates in the synthetic judgment was part of Wang's own view.

We conclude, then, that Wang's term and doctrine do not correspond directly with any of the recognized mean-

ings of intuition in the West. On the other hand, nearly all of the elements called intuitional in Höffdings classification are present in Wang's doctrine. Least evident is analytical intuition; most clearly apparent are concrete and practical intuition.

6. *Evaluation of Wang's doctrine.*

(a) Turning first to its weaknesses, we find that Wang's exposition of the intuitive faculty suffers from the extravagance of his claims. When intuition is made practically identical with mind, with moral principles, and with cosmic truth and reality, confusion is inevitable in the formulation of its functions. Wang himself confesses that he finds it hard to explain what intuitive knowledge really means. He weakly adds, "Since everyone by nature has the intuitive faculty, it is merely necessary to mention it, and even the most simple-minded and the most depraved will realize what it is. But in the matter of determining its meaning in the fullest sense, even the sage with his extended knowledge is certain to be disappointed" (p. 418). His excessive claims, and the absence in that period of exact scientific knowledge, whether of the physical world or of mind, and the further lack of experimental methods, allowed him to draw conclusions from strange arguments and to make strange identifications. Further, in epistemology, the subject-object problem suffers from a failure to analyze sense perception. His external world is too hazy to satisfy the demand for the reality of objects. When dealing with this question his answers would seem logically to lead to solipcism. "I made inquiry saying, 'Heaven, and earth, spirits, gods, and things have existed for thousands of years. Why should it be that when my intelligence is gone they all exist no longer?' The teacher said, 'Consider the dead man. His energy and intelligence have been sep-

arated. Where are his heaven, earth, and things?'" (pp. 184-5). The case of the flowers, referred to above, leads to the same conclusion. Not only the knowledge of the flowers, but the flowers themselves are described as internal to the mind. However, because knowledge of external objects and knowledge of truths are never clearly differentiated, Wang always comes, for the justification of his theory, to the moral aspect of knowledge drawn from social relations. Thus he escapes a solipcism,—not by answering the epistemological problem, but by unconsciously shifting to the field where his case is naturally stronger.

In the field of moral knowledge his method of the extension of knowledge of the good by the rectification of ideas and the elimination of selfish aims, constantly faces the peril of subjectivism. His disciples are repeatedly ensnared in the difficulty of "investigating things" while in the midst of the duties of an active life. Introspection and self-examination seem to them to demand abstraction and retirement (pp. 249, 290, 308). Wang's answers are not always convincing. Since the intuitive faculty and heaven-given principles are the same, and since principles cannot be affected or moved by the stress of affairs, so, he contends, the original nature of the mind is not to be affected by these external matters. The conclusion is that in the learner's mind there must be lurking some desire which is obscuring his original nature and interrupting his investigations. One is drawn to sympathize with his disciples as they flounder around in the inherent difficulties of a subjective method in moral progress. Wang also shares the typical Confucian illusion that, in moral matters, knowledge is the complete and adequate dynamic. What makes men go against the promptings of conscience? He can only say that such men do not really know. This implies that he failed to carry on "the investigation of things." The

teacher said, "In case the individual really knows the secret of intuitive knowledge, no matter how many thoughts he has that are depraved, corrupting, and useless, they will all be dissipated when intuitive knowledge becomes aware of them"(p. 189). However, Wang's doctrine of the unitary knowledge and practise went far toward correcting these intellectualistic and subjectivist weaknesses in his doctrine of moral knowledge.

Throughout his work, our philosopher labored under the disadvantages involved in the "proof-text" method. Just as this method confuses the thinking of Christians when applied to the Bible and prevents them from making the most of new truths which they have really acknowledged, so it keeps even so free a thinker as Wang Yang Ming in constant bondage to the classics. The bulk of his writing is given up to interpreting the phraseology of the Four Books, so that they will fit into his scheme. This produces artificiality and loads his distinctive ideas with old terms and associations, preventing a clarification of his thought, and keeping him from achieving the creative work of which he was really capable.

Much of our criticism should legitimately be written off to differences between Western and Chinese modes of thinking, and to the limitations of the times in which Wang lived as a matter of fact. Wang on the whole compares very well in the reasonableness of his ideas with the prescientific rationalists of the West who were actually later than he by one or two centuries. Since Western philosophy has been so largely concerned with the theory of knowledge and has repeatedly taken the subject-object and mind-matter problems as the organizing centers of its thought, while China on her side has turned to social morality as its chief theme, it is hardly fair to task Chinese philosophy too heavily for failing to handle the former problems. Whether

these are more truly the task of philosophy than the problem chosen by the Chinese, is fairly open to question.

(b) Wang Yang Ming, we would point out in conclusion, has much to call forth our approval and to merit wider study. He has both an instinct and a method for securing unity in the life of the individual and in the world of experience. It is delightful to read the passages in which he cuts through the maze of terms abounding in Chinese ethical and social discussions to show what is really at their bottom. He is insistent on the unity of the mental life, and often exhibits great skill in relating the many aspects of experience to the central unity of the self. It is extremely important that a man should achieve a unified attitude toward life, and such principles of conduct as free him from the minutiae of rules and particular cases. Wang's suggestion to this end is his doctrine of intuitive knowledge. "That which regulates man in serving prince, selecting his friends, loving the people, and regarding things highly; that which regulates him whether acting or resting, whether speaking or quiet, is just the development of the intuitive faculty, which bears in mind filial and fraternal relations, and which is truly sincere and sympathetic. Under such circumstances, nothing arises which is not in harmony with the path of duty (tao)" (p. 443). "The underlying principle is one." This he illustrates in relation to all the steps in the task of moral learning as outlined above (*cf.* 374-5).

Wang was the first Chinese thinker to realize the prime rôle of mind in the universe. We have noted the weakness in his conception of the physical world, but this should not unduly discount for us the positive contribution of a thinker who could bring into the synthesis of the concept "mind," the more abstract ideas of moral law or principle (理) and the still more ambiguous "tao" (道) which other Chinese

thinkers had made final in their view of the universe. And while the categories of benevolence, righteousness, propriety or social decorum, and wisdom, are taken over uncriticized from traditional Confucianism, and while even their seemingly spontaneous rise in the mind was not recognized as in fact a result of social inheritance, there is nevertheless something to be said for Wang's contention that these are principles inherent in the cosmic and human moral order and are the mind's structure. That such categories of thought and judgment as love, justice, fitness are structural to reality is a doctrine to which a modern idealist, Adams, and in a different form, neo-realists like Spaulding, Montague and even Russell, in their doctrine of universals, are giving their support.

Again, Wang's emphasis on intuition as the spontaneous manifestation of the original nature, when cleared of obscuring faults, gives rise to a freedom and inwardness in morals which were greatly needed in his day as in all times. With this goes an emphasis on personal experience. This was a vigorous protest against the prevalent externalism and bondage to tradition. The appeal to principles, to inner certainty, to the spirit of the sages, and to personal experience are reminders of the perennial revolt of prophetic persons against scribalism and tradition everywhere. The reading of Wang's biography reveals the remarkable independence of thought and action which characterized him in his personal capacity as a high official. The same quality is found in his writings as well, in spite of the limitations of his proof-text method.

When Wang went back to Mencius for his doctrine of original nature he also recovered the unique democratic quality in Mencius. Indeed this democratic impulse was strengthened through the fact that Wang explored intuitive knowledge, which, like the potential goodness of nature,

was ascribed to all men, into an all-inclusive doctrine of mind. It is the same mind in everyone, common man and sage, youth and adult. In all, it has the possibilities of development to the utmost. Out of these qualities of inwardness, freedom, independence, and democracy, comes a marked moral power. Evidence of this is to be found not alone in Wang's writings but even more in his life, and his influence upon his followers and the region where he made his home.

Strangely enough, however, his most marked influence has been in Japan. There, under the name of the Oyamei or Yome school of Confucianism, his teachings flourished in the period of the Shogunate, 1602 to 1868. His followers, though few in number, were men of great influence. Among them was Admiral Togo. These leaders were stimulated to activity and high personal morality by Wang's teaching. Indeed the latter may be said to have furnished the inner preparation, as did the coming of Perry the outer stimulus, for the great reforms which initiated modern Japan. Wang's teachings of the unitary nature of knowledge and practise in morality, and his insistence on practical life as the proper arena for the development of intuitive knowledge to the loftiest point, were well calculated to further the active life of reform on which his Japanese adherents set out.

In view of this fact it may be asked why Wang Yang Ming has not found greater acceptance and proven more influential among his own countrymen. This is a difficult question. The most likely suggestion, perhaps, has come from the pen of Dr. Hu Shih. This writer has discussed the contribution of the two methods of the "investigation of things" to the development of logical thinking in China. He fully recognizes the merits of Wang Yang Ming and the reason for his reaction from Chu Hsi's method of arriv-

ing at truth through extensive investigation of the "li" (理) principles in all things. Chu Hsi's inductive method was rendered barren because it lacked the element of experimentation; moreover, there was no recognition of the active and directing rôle of mind. Nevertheless, Dr. Hu Shih concludes, the Sung school was right in their interpretation of the "ke wu" (the investigation of things), for when corrected by the use of an adequate experimental method and the recognition of "things" as applying to the world of physical objects, the method of induction must be the main way of really extending our knowledge . Wang Yang Ming, shutting himself up to the discovery of truth within his own mind, committed himself and others to a subjective method of intuition without proper relation to objective tests. I think this is probably the main philosophic reason why his teaching has not made a larger appeal to the Chinese mind. From the historical point of view, it would seem that the strong discipline of adherence to tradition, which had become so firmly established by the time of the Ming dynasty, must have been largely instrumental in curtailing Wang's influence and blocking a wider acceptance of his ideas. With the modern discovery that the heritage of Chinese thought is much broader and more varied than the orthodox Confucian stream itself, we are witnessing a new awakening of interest in Wang's philosophy.

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THE DEVELOPMENT OF METHODS IN SOCIOLOGY

ALL of the methods now used in sociological investigation and generalization were to be found, at least in embryo, among the Greeks of the age of Plato and Aristotle. In this paper I shall not attempt to go back of some sort of a conscious attempt at critical thinking on their part. We may start with Socrates whom we may take as the greatest of those sophists who were attempting to give to the process of thinking and generalization some sort of rules which would guarantee a reasonable degree of dependability to ideas and would at the same time afford some test of the accuracy of the philosophic contentions which were encountered in private conversation and political propaganda and religious and social discussion. Socrates, at least, had a civic motive in the development of methods of testing the truth of ideas. He was essentially a critic, but rather of theories than of institutions. In showing the citizens of Athens the unsoundness of their notions about society he also made himself a critic of their society itself.

I. The Socratic method was that of definition of ideas and testing of assumptions by a process of elimination of error. The assumption was that if an idea or proposition contained an essential core of truth it could be revealed by a process of "peeling." This Socratic assumption regarding method cannot be understood by our

relatively scientific age unless we recall the Platonic distinction between the idea and the representation, the noumenal and the phenomenal, which was also held by Socrates and all metaphysicians of the time. Truth for them is not a human or social product (although some of the sophists had arrived at this conception in saying that man is the measure of all things), but emanates from *Nous* or natural law (from the gods, according to the theologians of an earlier day) and imposes itself upon the human mind or reason, perhaps by a process of infiltration, known subjectively as intuition. But all human and earthly (phenomenal) extensions of the universal truth were imperfect, that is, contained error, and were more or less distortions of the noumenal or perfect original.

These imperfect copies of the perfect ideas reached man variously. Usually they came by way of tradition, or from the ancestors. This fact sanctified them in the minds of the superstitious, but not so to Socrates. Being a metaphysician rather than a theologian he did not believe in revelation. To his way of thinking the ancestors must have first come by these imperfect ideas in the same way he and others arrived at new or original ideas, that is, through their "reason." But what Socrates meant by "reason" is not what we mean by that term. We would conclude that Socrates must have arrived at his new ideas by some sort of random induction from cases, or by reasoning by analogy, or by deducing a minor proposition from a major one, that is, by some now commonly used logical process. But to Socrates the "reason," sometimes used interchangeably by him for his "daemon" or "guiding spirit," was a sort of assimilative organ or personality lodged in his body (brain or heart) for the reception of infiltrations from the *Nous* or natural law without. We may see remnants of this notion surviving to this day

in such concepts as free will, the Virtues, the Vices, the instinct for truth, conscience, etc.

But none of these emanations from *Nous* through the organ of "reason" were as perfect as the original idea, whether they came directly to one or through his ancestors. Man, himself imperfect, could scarcely receive perfect extensions of truth. The problem Socrates set himself was to develop a method of refining these imperfect ideas, of eliminating from them the elements of imperfection which they contained. He was not without precedents in plenty. The Greeks, like all other early peoples, were familiar with methods of augury, of reading from heavenly signs, chance happenings, entrails of animals, lots, oracles, etc. While Socrates was not above believing in such spiritistic or theological methods of choosing among ideas, he was advanced enough to seek a more intellectual or logical procedure of testing propositions, one which would utilize his principle of "reason" itself in refining the universal emanations from *Nous*. The dialectic method was merely that of clarifying concepts and propositions by defining them in speech terms, of finding equivalent descriptive terms, and then of setting the propositions over against each other for purposes of comparison. If there was contradiction there must be readjustment and restatement. Thus, finally, the core of truth would remain after the process of elimination or "peeling." Crude as was this logical method, in the hands of a keen controversialist and clear thinker it produced remarkable results. It gained the hearty approval of Plato and of many other followers who used it. It marked the greatest advance in critical thinking up to that time.

But it had many defects. It had no definitely formulated rules of procedure, and Plato was not the man to add these to his master's method. It therefore depend-

ed for its utility primarily upon the keenness and the intellectual honesty of its users. It was in no sense either fool proof or knave proof, as is abundantly attested by the employment made of it by some of the other sophists whose lack of intellectual honesty or acumen has caused an unsavory significance to be given to the term "sophist." Another great disadvantage of the dialectical method is that it is almost wholly negative. It did not undertake to gather data and to generalize them, but limited itself to testing the accuracy of or discovering the truth in hypotheses or beliefs which had already been formulated and which, perhaps, had come down from the past where the folk mind had created them.

II. It was the work of Aristotle to make an attempt to subject the dialectical method to rules, and in carrying out this attempt he created formal logic. For this purpose he employed the syllogism with its major and minor propositions, and its deduced conclusions. But even the syllogism remained a negative method, one of testing concrete and immediate practical propositions in the light of more general and remote propositions to which the immediate practical propositions are submitted for purposes of comparison. John is shown to be mortal only because he is a man and because all men are mortal. The method remains the same as in the hands of the sophists except that Aristotle has formalized it, has made rules to guide its procedure, and has thus made the steps in the comparison of propositions stand out more clearly. But it is still a negative method. Each more immediate proposition must be traced back to a more remote one, the truth of which is assumed. It contains in itself no method of testing its major propositions. Neither can it build up a method of generalizing particulars into universals, the essential element in inductive method.

But the genius of Aristotle was equal also to this more positive task, at least in practice, if not in theory. Aristotle's *Politics* contains abundant instances of all of the methods of positive generalization since used, except that by exact or formal statistics. Of course the application of these inductive methods was limited by the data which he had at hand, but the forms are there, although they are not named as we name them. Informal statistical generalization—drawing general conclusions informally from numerous observed similar instances—occurs repeatedly, especially in connection with his conclusions drawn from his studies of various ancient constitutions, of the location of cities, the sequence in the evolution of communities, the fundamental relationship of inferior and superior, domestic organization, the forms of government, and numerous other items of theory. The case method is also frequently used, although he has no explicit theory of the case method. Not infrequently, in common with many other ancient and modern writers, he erects the striking case into a type. This he unquestionably does when he speaks of the advantages of the location of a city a few miles from the coast, which was so conspicuously the case with Athens. In a sense he made every constitution a case, but he generalized his cases by a sort of informal statistics into universal principles. If at times he drew general conclusions from a single case without checking on it with a sufficient number of other cases, it can scarcely be said that he was different in this respect from many present-day writers who have not come fully to perceive the true function of statistical generalization and correlation, which is, of course, to prevent the striking case from being inconsiderately erected into a type.

Aristotle drew his data for inductive or positive gen-

eralization from history and from contemporaneous society, just as we do. There is even some use, although relatively inexact, of anthropological data. Facilities for gathering data for social generalization from the sources —history, archeology, anthropology, and contemporaneous society—were much less adequate in Aristotle's time than they are at present. And yet we must admit that, with the possible exception of history, they were not greatly improved for some fifteen hundred years after Aristotle's death. His close connection with Alexander and the fact that he lived in an age of striking intercommunication, especially through conquest, among many peoples perhaps gave Aristotle better facilities for comparative study than any other Greek writer possessed. Only Herodotus can compare with him in this respect, and the data of Herodotus and the uses he made of them are much less exact. It is not surprising that in an age of universal hostility among peoples there should be little use of dependable anthropological data for purposes of inductive generalization.

The attempts of Aristotle to use data of contemporaneous events are much more numerous and visibly more successful. But even he had not yet learned to describe society in its subtle details and in terms of its underlying forms and principles in that manner which marks off sociology and social psychology from the more obvious and external social sciences such as economics and political science. Mankind lived countless ages without being aware that they had customs, traditions, beliefs, public opinion, and comparable forms of collective behavior. Only slowly were the habitual forms of behavior which centered in relationships rather than in personalities or in ceremonies and rituals sufficiently objectified and verbalized that it was possible to label and record and count and

generalize their occurrence into laws of sociology and social psychology. That time had but imperfectly arrived in Aristotle's day; and the method has flowered into a social science, or into social sciences, only within the last two or three generations. Those facts of his time which were fairly obvious Aristotle saw and recorded and generalized, and much of his *Politics* and *Ethics* is based on such contemporaneous sources.

But it has been said correctly that the society, especially the political and institutional organization, which Aristotle saw and generalized belonged to Aristotle's immediate past rather than to his own age. He shows little or no understanding of the tremendous changes that were going on in his time. Most of his political generalizations are drawn from the constitutions and governments which had already passed out of existence or were in process of decay. So, after all, his chief source of data for generalization was historical. Doubtless he suffered from the same limitations that all students of society are subject to, the difficulty of getting sufficient perspective of contemporary events to frame (generalize) them into descriptive principles and laws. Or, to put it in another way, it is exceedingly difficult to hold all of the contemporary facts in a changing world, like the dynamic present, in such a constant and static relationship one to another that they can be seen and generalized as unit processes. For this reason the historian does not like to come too close to the present. The further back he goes in his search for data the more likely he is to find them subjected to a sort of artificial selection and compression, due to the fact our perspective upon the past has made it into a static world. Of course this artificial selection and definition of the data of the past according to our conventionalized viewpoints from the present render these data less vital and significant in reconstruct-

ing this world, but that is another story, and one that has not yet come to trouble the orthodox historians.

There is no reason to suppose that such a problem ever occurred to Aristotle. He took his history as he found it. His most striking difficulty was that there was not enough of it, so little in fact that he could not easily secure perspective of human events. It is worth noting that, although he covered practically every other field of knowledge, he did not undertake to write a history of mankind. Also his generalizations are for the most part made for a fairly static society; but those covering successions of events, such as the theory of revolutions and of the successive types of communities, are not wanting. Even here, perhaps, his method was to take conspicuous cases from history and erect them into universal types rather than to arrive at his types from the comparison or informal statistical correlation of a great many cases in historical succession.

Further evidence of this incompletely scientific utilization of the data of history for purposes of generalization is to be found in the fact that he is constantly reasoning by analogy from the single case in history, and in contemporaneous society, interpreting it more in terms of its more or less superficial resemblance to some other single case than by assimilating it to a large number of similar cases and testing it in terms of the numerical predominance of its occurrence. Perhaps no other procedure was open to him in an age before vast collections of historical and contemporaneous data had been made and defined. It is, moreover, but the same crude analogical procedure which some of the less critical exponents of the case method yet employ when they attempt to interpret the facts of human society by analogy with the cases which they draw from animal and plant communities.

III. Historical data, or the historical method, was first consciously used to support hypotheses which had been arrived at unconsciously or which had come down as traditional beliefs. Evidences of this contention are numerous and various. Again and again the Hebrew writings illustrate a doctrine by citing a historical or apocryphal case. Plato illustrates some of his most pointed moral teachings in this way. Augustine's *City of God* employs the method constantly. It is still one of the favorite methods of the casuist to employ history to support a preconception or a theory by an appeal to historical data. Within limits it is a justifiable procedure, although it is always a negative method, and ceases to be tolerable when facts are discovered which contradict the theory. Sometimes these exceptional facts are waved aside with the statement that they are the exceptions which prove the rule. This is certainly an absurdity in any except the statistical sense that the statistical formula never exactly describes the concrete data, since all facts are individual and particular or special, and the statistical formula is only an approximation curve. The historical data which are thus called upon to support a hypothesis are usually striking cases which are imputed to be typical. The early social thinkers did not scan the whole field of history and generalize it for such a purpose. The application of the informal statistical, as distinguished from the case, method to history in the support of sociological hypotheses belongs more especially to modern historical research. And even here the method is, of course, not in perfectly good standing. The accepted rule is that historical generalization should be as spontaneous and unpremeditated as possible.

The attempt to generalize history into some perspective, to discover trends and stages, as distinguished from the method of taking an illustrative case here and there

to support a preconception or a dogma, was already visible to some extent in Aristotle. St. Augustine has his stages of old testament history approaching to a reign of grace. Dante, Ibn Khaldun, Machiavelli, all and increasingly, generalized logical sequences or trends into history and decreasingly used history as a fund of distorted cases to illustrate and support hypotheses. The explanation of this growth of logical method in history is of course the growing volume of historical data. Also, as people got farther away from the histories of Rome and Greece they succeeded more and more in standardizing and stereotyping their data. In this way the facts themselves became static and relatively unchanging and thus capable of being held fast and viewed in a constant perspective or process. Volume and fixity (dependability) of historical data thus made it increasingly possible to see trends in history, i. e., to generalize it into principles or laws, according to informal statistical procedures. The imputed curve, as well as the event or case, in history thus began to appear.

It is to Vico that we owe an explicit statement of this method of detecting logical sequence and continuity in history. In his *Scienza Nuova* he clearly stated the proposition that historical data can be used for the purpose of generalizing social (sociological) principles and laws. In his opinion history is the overt behavioristic expression of the mind of God, which is made manifest in historical events. In order to know the mind of God, which was formerly revealed in the laws given to Moses and the prophets, it is now necessary to study the data of history and erect these into principles. As a believer in natural law, the successor of the old *Nous,* the logic of history became for him the legitimate successor of revelation. This is not a new philosophy, but is in reality the metaphysical logic of St. Thomas applied to the interpretation of the

data of history. Nevertheless it is the first statement of the theory of inductive generalization from historical data which approximates the modern statistical method. Of course Vico had no mathematical conception of historical generalization. There were not sufficient comparable data from history to make this conception possible. Mathematical statistics had to await the abundance of social data which was first available with the study of contemporaneous data in very recent times. But his professed method may, I think, very properly be denominated as informal statistical, although he never heard the term. His actual aim was to plot the curve of history, which is another way of saying that he was attempting to look logical perspective into a fairly adequate body of historical data now available for the first time.

Vico was but the beginner of this explicit and self-conscious method, which is also the forerunner of early sociological method. Turgot, Voltaire, Rousseau, Montesquieu, Condorcet, Herder, Hegel, and numerous others carried forward and sometimes improved the technique of generalizing sociological principles from historical data. But all of these worked within distinctly metaphysical conceptions and backgrounds. In Saint-Simon and in Comte the metaphysical as well as the theological presuppositions of the method were discarded in principle. The earlier philosophers of history had appealed from a personalistic and fiatistic interpretation of historical data to universal and naturalistic principles. They lifted the isolated case out of its fiatistic and personalistic character and imputed to it typical and universal value. They went further, from the time of Vico on, and sought to bury the case in the type. They sought to get back of the particular and imperfectly phenomenal to the perfect and universal principle or idea, and they sought to do this through a study and

comparison and harmonization of the concrete phenomena or data themselves.

The similarity of their metaphysics to that of Socrates and Plato is obvious, however much more sophisticated the later statement may be. Also, the similarity of the new method of synthetic generalization to the Socratic dialectic is almost equally obvious. But there is one striking difference in emphasis between these two methods. Whereas the earlier one is negative and eliminative on the basis of comparison, the latter is constructive and inclusive or assimilative on the basis of comparison. Both use comparison, but the one seeks the least common denominator and the other the largest common denominator of the data, as it were. It is this latter change in the common denominator which renders the method of the philosophers of history capable of serving the ends of a largely constructive synthetic and inductive generalization. Also, it outgrows gradually its servitude to the bolstering up of preconceptions and dogmas and seeks to be a means to more or less spontaneous generalization. It remained for the Comteans and the critical German historians to attempt to make of the historical method a procedure without metaphysical preconceptions. They did not really achieve this end, nor are the implications involved in the positivist doctrines fully clear to all historians and sociologists even today. They certainly were not to Comte, their formulator.[1]

The philosophy of history, with its emphases upon stages and sequences, first introduced the definite concept of evolution in human affairs, although this concept was formulated in terms of the concept of progress. Moreover to the philosophers of history progress was an inevi-

[1] See "Scientific Method and Social Progress," *American Journal of Sociology*, July, 1925, for a discussion of some of these implications.

table, metaphysical process, imposed upon mankind by the nature of the law of the universe. This was a very different concept of evolution from the scientific one which has more recently dominated our thinking, in which there is nothing of inevitability or external imposition. Thus, the definite concept of evolution was applied to human affairs before it was extended to the lower organic and to the inorganic worlds. In a similar manner, it may be remarked, the concept of relativity was prevalent in the discussion of moral and social affairs long before it was applied to physics. The fact that the theory of relativity has recently been given a more definite mathematical formulation in mechanics has served to obscure the fact that the idea was earlier current with respect to social phenomena, and was itself a product of historical comparison.

The imperfections of the historical method, or the inadequacy of historical data, as a source of sociological generalizations, gradually became apparent in the nineteenth century. It was recognized that the number of cases available for generalization was insufficient for purposes of affording a true sample. The authenticity of the data was not always beyond question. The data themselves had been selected by their recorders, usually from a partisan or prejudiced standpoint, with the result that only one side of the story was known. The limitations of insight of the recorder often prevented his noting the more subtle and less striking, but often the more important, factors in the situation, so necessary to the sociologist. For this reason Vico largely neglected the chronicles of kings and turned to a more fruitful analysis of ancient literatures for his data. Closely related to these difficulties was the fact that all history in the past was written, however honestly, from the preconceptions of that time, while the philosophers of history must inevitably interpret

and generalize from the preconceptions of their time. And, as before suggested, historical facts attain to a degree of artificial rigidity that largely incapacitates them for use in explaining dynamic processes. They become dead or static, while the social philosopher requires living data.

Such difficulties as these led to the search for numerous remedies. The so-called scientific historians of the nineteenth century, especially of the German school, initiated a movement to collect vast quantities of documents and data and to test the accuracy of these with the most rigorous possible criteria. Likewise various devices were used to correct distortions and limitations of viewpoint of the older chroniclers. Out of these grew the higher criticism, which ultimately came to pervade the interpretation of all documentary sources. But these rectifications were never wholly successful and there are now few historians who believe that their data are adequate to complete sociological generalization. It was also in the nineteenth century that the search for adequate and dependable data began in earnest to go beyond historical collections. Archeology and anthropology had arisen by the middle of the century to serve as supplementary sources, and the rise of formal statistics in this same century made possible and popular the utilization of vast masses of contemporaneous data for purposes of generalization. These newer sources of data for sociological generalization will be considered in their turn; but for the present it seems wise to turn aside for the purpose of indicating more adequately the uses to which the case and statistical methods have been put in the past and may be put in the future as aids to inductive sociological generalization.

IV. The case and statistical methods are the two procedures by means of which data are collected and generalized sociologically. They are supplementary rather than

antagonistic. The case method corresponds roughly to the laboratory experiment, except that the social case describes situations as they are, while the laboratory case describes conditions under artificial controls. Even here there is no essential difference, except that it is usually difficult to subject the social case to a high degree of artificial control and thus eliminate unmeasurable or disturbing factors. In the experimental laboratory it is frequently possible to eliminate through artificial controls the unmeasurable and irrelevant factors and thus to construct a definite and accurate formula for the behavior of inorganic and even organic bodies within the artificial environment thus selected for them. One of the best examples of this sort of control and measurement is in the case of the law of falling bodies. The control of the environment is so perfect in the vacuum that a highly accurate formula for falling bodies *in a vacuum* has been constructed. The sociologist also studies human behavior in highly controlled environments and secures fairly predictable results for behavior *under those conditions,* when repeated, but when he comes to study whole groups of individuals behaving in their ordinary manner in their ordinary social environment it is not possible to control or standardize all of the environmental factors. Hence it is difficult or impossible to measure them directly and simply, and the statistical method must be employed as a means of isolating and holding constant the factors, for purposes of measurement. The social or group case study is, therefore, much more nearly comparable to an ecological or symbiotic study of lower organisms, or to a study of a geological formation or geographical area, than it is to the measurement of the behavior of physical bodies in a laboratory.

However, the case method of interpreting social phenomena has long been used, is in fact very primitive. As

indicated above, it was first employed to illustrate and support propositions and dogmas rather than to arrive at new hypotheses inductively. In this way social cases, such as the parable, allegory, vision, revelation, myth, story, tragedy, novel, have been used from the earliest times. The earliest literatures show abundant examples of them. Since social science, like all other sciences, had its origins in the practical problem of control it is to be expected that such cases should at first have been used for moral and political purposes rather than as means to inductive generalization. Visions and revelations are subjective behavior cases, arising out of crises, under the control of dominant ideas, which long served the same purpose among less introspective peoples. Some of these more analytical cases, like the tragedy of Job and the Greek tragedies, were so elaborated and extended as to cover and illustrate a whole social philosophy. It is not particularly important whether these cases were factual or fictional, as far as their utilization was concerned. The utilization of actual cases from history, although doubtless strongly colored by the preconceptions of the folk or sectarian mind, reached considerable dimensions as soon as fairly reliable historiography appeared. In this function myth preceded history. In fact, it is well known that mythical traditions have always been created to explain and justify practices when the origins of such practices were unknown or when the actual origins would no longer justify surviving practices to a more modern world and ethics.

The utilization of the social case method for the purpose of constructing sociological generalizations may be said to have begun with the initiation of descriptive studies of peoples. Perhaps to Herodotus belongs the honor of this initiation in a small way. The social case study of groups and factions is of much later origin, due to the fact

already indicated that one perceives the strikingly strange and is able to describe it objectively earlier than those phenomena of which he is a part. To understand and describe the latter requires a much more elaborate technique of analysis and a much more subtle power of verbalization. It is interesting also to note that ethnological and anthropological descriptive case studies of primitive peoples were made much earlier than psycho-sociological case studies of the students' own societies. The former go back very far in history and are very common, at least in imperfect form, from the time of the European expansion in the sixteenth and seventeenth centuries. Even the systematic ethnological case studies of the nineteenth century antedate equally well developed psycho-social case analyses of institutions, parties, and sects which are only now beginning to be studied in any systematic way.

The survey is another form of social case study aiming at sociological generalization. The attempts at control or definition of the environmental factors, and consequently of their accurate measurement, are much more marked in the survey than in the earlier ethnographic and psycho-sociological descriptive case studies. The modern case studies in these two latter fields have recently come to take on the character of surveys. This is particularly noticeable in the case of such studies as Rivers' *The Todas,* the recent studies of the Bureau of American Ethnology and of the numerous British ethnographical and anthropological studies in the East Indies. The survey as such has advanced greatly from the time of the Domesday Book or of John Stow's rather crude and external study of the city of London. The modern survey seeks either to analyze and measure in great detail some particular phase of the life of a community or to get at the fundamental activities of the whole community and of the subtle

as well as the more obvious factors back of the activities. In other words the survey becomes increasingly psychosocial at the same time that it improves in intricacy of analysis and accuracy of measurement.

The survey, like other methods of interpretation, began as a practical instrument of social control. In its later forms and development it has become an avowed instrument for theoretical generalization, however much its ultimate object may yet be that of control. The rural sociologists have made much use of the survey for theoretical purposes and, with the aid of the Purnell grants, will make much more. Another case technique, taken over from applied fields of social technology and psychiatry, and adapted to the study of personality, is the life history. These life history studies are adapted either to a cross-section analysis of the personality or to a study of the genesis of personality in relation to the environmental factors which condition the individual's behavior. The life history corresponds roughly to the returns from the statistician's questionnaire, except that the preparer of the life history may prepare both the questions and the answers, while in the latter case he answers questions presented to him. The life history and the social case offer some very distinct implications regarding method for the sociological generalizer. But space limitations render it impossible to go into matter in the present paper.

The case method of analysis has undoubtedly contributed much to the development of sociological generalization. We have seen how the case was at first drawn from myth or history and used as a support to a dogma or belief, and how later it came to be a description of contemporaneous data and to be used for purposes of positive inductive sociological generalization. Thus the utilization of cases was the first critical method of inductive sociolog-

ical generalization to be employed. Critical or rigorous statistics grew out of one form of case study, that of the general survey. The statistical method has thus developed as a supplement to the case method. The more complex forms of sociological generalization are not possible without the use of the statistical method. The supplementary character of the two methods may best be illustrated by saying that the case analysis best gives a concrete understanding of a specific situation, while statistics is a conceptualizing device to enable one to see several situations together and under the same common denominator.

V. The statistical method has two aspects, the informal and the formal. Informal statistical method involves the rough generalization which is made by approximation from facts, possibly poorly defined and attested, which are picked up in more or less random observation. In this way the man in the street makes up his philosophy of all types of events from the weather to the presidential election. He "guesses" at general tendencies from what he sees or thinks he sees. The sample he uses may not be representative and his method of drawing conclusions may be anything but rigorously exact. However, it was the only method of seeing many separate events together as a unitary or single process, that is, of getting perspective and unity into one's view of social life, before rigorous or mathematically exact statistical method was invented. In spite of the fact that it was the forerunner of mathematical statistical method and was universally used for many centuries and still is used for tentative generalizations, and by the masses almost exclusively in their thinking, it is not ordinarily regarded as a statistical method at all. But such it is, and the only distinction between informal and formal statistics is that the former is merely more or less accurate approximation, usually of a fairly simple

sort, while the latter is a process of complex calculation of general principles and processes, of averages and means, on an exact mathematical basis.

Informal statistical generalization is older than formal science, even than recorded culture. It is the unconscious inductive source of many of the ancient major premises which the early philosophers, such as Socrates and Aristotle, sought to test by means of a more or less rigorous logic. Often it was the source of inductive generalizations achieved through visions and revelations.[2] Another, but deductive, source of early major premises and qualitative generalizations was reasoning by analogy, by which method like values or qualities were, and still are, attributed to things with striking similarities. The analogical and the informal statistical methods contended for mastery in the minds of early thinkers, as today they contend in the mind of the man in the street. Nor are the survivals of these methods unknown among the sociological experts. Other early examples of quantitative generalizations formulated by the informal statistical method are to be found surviving in ancient literatures and folk traditions, in proverbs and popular wisdom, in weather lore and in the survivals of magic and superstition. Aristotle, who wrote the first formal treatise on society, made repeated use of this method, as well as of the more deductive method of analogy.

The philosophers of history also employed the informal statistical method along with the case method and analogical deductions. With the growth of historical perspective and the accumulation of historical data to the point where historical facts began to repeat themselves approximately, the informal statistical method could be used in construct-

[2] For the psychology of revelation as a method of generalization, see 'The Objective Viewpoint in Sociology," *American Journal of Sociology*, Nov., 1919.

ing historical sequences, and thus it was largely employed. Many of the numerous theories of social evolution, of stages, and of progress were arrived at, at least in part, through the application of this method. But this method was always used primarily in generalizing contemporaneous data. It was particularly useful in the early national and regional surveys, where also the formal statistical method began to be used. The writings of such men as Machiavelli, Bodin, Montesquieu, Turgot, Herder, Rousseau, Saint-Simon, Godwin, Comte, and Buckle, abound in informal statistical generalization about various sorts of contemporaneous and historical items, as do the writings of present day publicists.

The development of formal statistics as a method of sociological generalization is primarily the product of the nineteenth century applications of quantitative measurements to social phenomena. It was made possible by the collection of vast quantities of data of the same class or order in fairly restricted fields, since it is not possible to apply the method except to collections of data which provide fairly easily an adequately representative sample. Thus formal statistics was first applied to population and financial and industrial data, to the generalization of accurate formulas and principles regarding death, birth and marriage frequencies, and has been extended increasingly to such subjects as circulation of money and credit, exchange volumes and rates, wholesale and retail prices, business cycles, price prediction, and the like. Although the formal statistical method is obviously much more accurate and dependable than the informal method, it is not possible to substitute the former for the latter in all cases, at least not immediately. The formal method works best with large masses of data, and especially must these data be comparable or of the same order. In many types of social

situations the approximate recurrence of phenomena under relatively the same conditions and within a limited period of time is so rare that even informal statistical generalizations are made with difficulty. In such cases analogical deduction continues to be used, or, in the event of the failure of this method, each case or item is regarded as unique and no attempt is made to construct general principles, laws, or formulas.

In such a situation the intensive study of the case will give much insight into the mechanisms of the event as a social phenomenon, but such case study has little or no value in prediction, because the case studied is non-recurrent. It may, however, aid in the adjustment of the individual while the event is in process. The relation of the case to the statistical generalization is either formal or informal. As said before, the case and statistical methods are supplementary, not antithetical. Statistics takes the cases and looks them into perspective or unity of process. This is true whether we take an evolutionary or a cross section view of society. A case may be described as a single item or fact which must be defined and standardized, or a complex of related items, even of the greatest complexity. The case is not defined in terms of its simplicity or complexity, but in terms of its organic unity. It is the business of case analysis to define this item or organized unity of items and to attach to it and its elements such values, numerical if possible, that they may be further related to a larger whole. It is the business of the statistical method to organize these items and collections of items, thus defined, labelled and evaluated, into a larger organic unity or "case."

Thus the statistical method may be a means to the construction of larger units of observed phenomena which may in turn serve for purposes of case analysis, just as the

case analysis may be the means to the definition and evaluation of data which are an essential preliminary to their being handled statistically. The essential function of case analysis is definition; that of statistics is integration, that is, to look into perspective and organic unity, in order that the "mind's eye" may see social phenomena as wholes rather than as isolated units. While supplementary, one important distinction between the case and statistical methods should be noted. A case description is, if accurate, always a true record of what occurs, while a statistical generalization, except in those instances when all included cases are identical, is only an abstract approximation. Definiteness and concreteness of detail must in some degree be sacrificed to the more inclusive view of the statistical generalization. If frequently "cases" or conceptual integrations of phenomena must be broken up into constituent items in order to look these items into new unities or perspectives, into new conceptual "cases," this fact does not create an essential antagonism between the two methods. Perhaps it merely emphasizes their interdependence. The real source of methodological error is in supposing that statistical generalization can proceed without definition of data or units or that generalization can proceed from case data without some sort of statistical method. So-called common sense inferences from cases amount to nothing less than informal statistical generalizations. Formal statistical generalizations are more adequate, when practicable.

VI. The cardinal difficulty with the statistical method —that of generalizing imperfectly comparable data—has recently been much emphasized in connection with its informal applications to anthropological data. This difficulty has been especially noticeable when the anthropological generalizers have attempted to break up the complex

ethnological cases described by anthropologists into their constituent items and reassemble them out of their settings into informal statistical generalizations of similar items from a wide range of cases. The failure of this attempt to generalize items out of their case settings did not really mark a failure of the informal statistical method of generalization, when properly safe-guarded, although many anthropologists believed that such a failure of method was indicated and abandoned it, returning exclusively to the method of descriptive case study. Lowie has written the brief for this viewpoint in his *Primitive Society*. For many years no self-respecting American anthropologist would attempt to generalize outside of the particular case he was describing. But the phobia is now passing and recent volumes by Kroeber, Wissler, Goldenweiser, Tozzer, Wallis and others show clearly that there is a place for broader informal statistical generalizations.[3]

The difficulty with the older method was the same difficulty that is found to inhere in the application of the statistical method to any field of data, whether historical, anthropological, archeological or contemporaneous, when there is not a sufficiently large body of closely defined facts of the same order, that is, of facts sufficiently comparable to enable them to be looked into organic unity or perspective. But the difficulty in employing the method with anthropological data was not as great as it was in connection with historical data, where it has been almost totally abandoned for the present. The chief problem in making these two types of data available for sociological generalization consists in finding a better method of definition of the items or facts to be generalized. It is not enough to

[3] The work of Hobhouse, Wheeler and Ginsberg entitled *The Material Culture and Social Institutions of the Simpler Peoples, An Essay in Correlation* (London, 1915), marks an attempt to apply informal and formal statistical methods to the interpretation of anthropological data.

label them by analogy, because they bear an external resemblance and therefore have imposed upon them a common name. It will be necessary to define these items in terms of their cultural environments, as well as in terms of their external similarities, before they can be generalized statistically. Only in this way can exceptions to conformity to type be indicated and preserved in the generalization. If it were possible to weight the items of the same general class or name with numerical values which would indicate the degrees of their variations from a norm (give them the same common denominator) it would then be possible to generalize them according to a rigorous formal statistical method.[4] Perhaps this numerical evaluation of similar data will sometime be achieved in anthropology and history and thus render the use of formal statistics possible in the construction of sociological generalizations from these sources. For the present, however, the careful generalizers in these fields, especially in anthropology, are taking pains to qualify their informal statistical conclusions by noting the numerous exceptions. This is the only recourse where the informal statistical method ventures into borderline areas of inadequately comparable data. Its justification for entering such fields is that there is no other method of securing a broader view than that afforded by the single case, and it must be taken with its limitations or not at all.

The advantages of anthropological over historical data for purposes of statistical generalization have already been hinted at. Anthropological data are frequently simpler than historical data. They are also nearer at hand and are frequently capable of verification. They have usually been

[4] This, of course, is just what is being achieved by the laboratory and clinical workers who are making intelligence, emotional, sociability, etc. tests and measurements and recording them as data for future sociological generalization.

observed with discrimination by experts. They are less likely to have become formalized and institutionalized into lifelessness through compression into documents and by running the gauntlet of countless censors. By the same token they are less subject to distortion. And they have been selected with more or less of a sociological eye to a definite purpose, and conditions and exceptions frequently noted. Ordinarily, also, they are much fuller and therefore more adequate. A whole volume or more may be devoted to a single people of small population inhabiting a highly circumscribed territory. Compare this fact with the statement of James Harvey Robinson in his *New History* to the effect that all of the verified data (as distinguished from inferences) of Roman history would occupy but a few pages.

But, on the other hand, the value of anthropological data for sociological generalization is much less than that of data from contemporary society. At the best they are far less numerous and are usually less well defined. They apply to a lower culture, probably very unlike our own. It is very difficult for even a trained anthropologist who has lived for years among a primitive people to detect all of the pertinent data or to evaluate and interpret them adequately. In many cases the natives, even when the will is good, are not able to give much aid, for they are even less prepared than the anthropologist to perceive the more subtle and less structuralized and visible phenomena of their group life. For example, they frequently do not know they possess such a thing as a grammar or institutions, until the anthropologist demonstrates these structures. For these and similar reasons the generalization of anthropological data, even when adequately accomplished, makes but a poor contribution to the sociological theory of civilized man. Although such data were used

predominantly in the last half of the nineteenth century, especially by men like Spencer, Letourneau, Wundt, Durkheim, Lipps, Lippert, Morgan, Westermarck, Lubbock and Tylor, the sociological theories resulting were in part saved from undue distortion by selecting the anthropological data to support largely preconceived sociological notions worked out by more or less unconscious formulation of contemporaneous data. To follow unreservedly the lead of anthropological data in making sociological generalization would probably result in a pure science of primitive sociology or social anthropology but little applicable to modern social conditions.

VII. The arguments of this paper may now be summarized as follows:

1. A conscious attempt at method in thinking was initiated by the sophists. In Socrates this took the form of the dialectic method, which aimed at "peeling off error" and leaving the kernel of truth in propositions by a process of comparison and elimination of ideas.

2. Aristotle formalized this process in the form of the syllogism. He also used various inductive methods, which have been more fully developed since, but he did not name these.

3. History was for a long time the major source of data for sociological generalization, because historical data were given artificial definition and fixity, while contemporaneous facts lacked fixity and definition and were correspondingly difficult to perceive because they must be seen without adequate perspective. Also their number and closeness made difficult adequate and discriminating selection. In the end historical data proved inadequate for the purpose of sociological generalization.

4. For various reasons mentioned, anthropological data, as a source of sociological generalization, largely re-

placed the use of historical data. The use of anthropological data was an approach toward the employment of contemporaneous data in the immediate field of the generalizer, with the methodological advantages of being simpler and more detached from the observer and generalizer.

5. These two initial advantages, and others, later became disadvantages in the formulation of a completer sociology adequate for an interpretation of modern societies. As a consequence, sociological generalization makes increasing use of contemporaneous data. The disadvantages of immediacy to the observer and complexity are being overcome by certain methodological devices and by intensive study and analysis.

6. With the increase of comparable data, especially in the field of contemporaneous social phenomena, the primitive method of case analysis comes increasingly to be supplemented by that of statistical generalization. Statistical generalization arises as a method of seeing many like things together, i. e., of increasing the range of the sociological vision. It is also a method of giving unlike or related items a common denominator and thus a common classification and perspective. But case analysis remains and is constantly improved as a method of getting at the meaning of events in a specifically defined situation. The two methods are supplementary.

7. The case method has gone through several stages of development from the parable, allegory, story, drama, novel, biography, etc.—which are primarily illustrative in function—down to the descriptive survey, analytical survey, and case history, which are used now largely as data for inductive and sociological generalization.

8. Statistical method has evolved from the informal to the formal. Recent abundance of data in various fields

of social phenomena has made possible an accurate mathematical handling of the process of sociological generalization to supplement intensive case analysis and definition of data.

9. The analogical method of interpretation and generalization of sociological conclusions, although deductive rather than inductive, has persisted in our time in default of a completer development of the statistical method. In fact, the initial statistical process of choosing the sample perhaps inevitably involves some analogical elements, although these may be removed by a fuller development of case analyses and of numerical definition of items to be generalized.

10. Analogical, case, and statistical methods are methods of analysis and comparison and generalization of data into sociological facts and principles or formulas. We may also speak of the historical, archeological, anthropological, and contemporaneous methods in the sense of methods of collecting facts as distinguished from methods of generalizing them. The application of statistics is so closely identified with the use of contemporaneous data that the collection as well as the generalization of these data is not infrequently termed statistical.

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THE PROBLEM OF REALITY[1]

KANT said that it was a "scandal for philosophy" that the conviction of the reality of the world remained logically unproved and was a matter of blind faith. In saying so he was certainly right. Man is not, and never will be, able to renounce his conviction of the reality of the world amidst which he lives; all his practical life is entirely built upon this conviction, and it is not conceivable outside it. However many idealists there may have existed, they were such only in abstract reasoning; in real life they were just as staunch realists as all other men; in other words, they recognized, consciously or unconsciously, that their philosophy did not agree with the fact which was incontestably evident to them and which they yet could not understand. Philosophy was thereby reduced to the position of some mental play, quite senseless, unnecessary, and contradictory to the essence of life.

Of course it is easy in the name of "common sense" altogether to reject a philosophic discussion of the problem of reality; people of common sense have done so in all times. But a mere appeal to common sense does not, as it has sometimes been thought, mean the establishment of a "philosophy of common sense." It means, on the contrary, a renunciation of all philosophy, i. e., of a rational solu-

[1] In this article the distinguished Russian philosopher who recently favored us with a critical survey of "Contemporary Russian Philosophy" (*Cf. The Monist* for January, 1927) sets forth afresh the thesis developed in his book, *The Object of Knowledge*, St. Petersburg, 1915. [Ed.]

tion of the problem. We should have just as much right to reject all science because it does not rest on "common sense," i. e., upon the prevailing beliefs, but investigates and deepens them, basing itself solely upon pure experience and logical reasoning. But if man cannot renounce the faith upon which his whole practical life is built, neither can he renounce the compelling force of logical arguments. It is therefore not enough to appeal to "common sense" in order to prove the reality of the world; we must also show that strict logical analysis coincides with what common sense tells us; otherwise we shall have to admit a cleavage between "faith" and "knowledge," which is here just as unsupportable as in any other domain.

But can that be shown in general? Certainly we have many systems of realistic philosophy. But in most cases we can easily see that in some place or other there is a flaw in these systems, that the reality is simply postulated or presupposed, that instead of a proof there is an unverified conviction, based on the evidence of "common sense" or faith. Moreover, we are entitled to assert in a general way that whenever the attempt is made to *prove,* strictly speaking, the reality of the world, that is, to reach this conviction in an indirect way, through a series of logical conclusions, it is vitiated from the outset and cannot be carried out. Indeed such a proof presupposes that we are logically *starting* from the opposite conviction of the direct inaccessibility of the reality to us, and that we *reach* it only by a complicated way of reasoning. But this is impossible. If we take as the starting point of our reasoning the proposition, which since the time of Descartes appears to be self-evident, viz., that everything that is immediately given to us and arouses no doubts in us is only "our idea," the "contents" or the "state" of "our mind," that to "know" or "to be conscious" means "to have an idea," then we shall find ourselves hope-

lessly confined within the circle of our consciousness and excluded from any reality outside this circle. To know reality will then be tantamount to having an idea of it, will mean the inclusion of it in the circle of consciousness. But an idea remains merely an idea and not reality itself, and everything which is implied in consciousness is consciousness, and not reality. We might then build any systems and link up any chains of reasonings we like—all these systems and reasonings will after all only serve to regulate the data of our consciousness—and it would be quite absurd to expect that at some point of our reasoning we should suddenly get out of the restricted circle of our consciousness and find reality itself. In order to do that, we ought to perform a real miracle; we ought to manage to catch the reality itself without turning it at the same time into the "contents of consciousness," we ought to get hold of it escaping from the custom-house of "consciousness" which would at once replace the "reality itself" by the "idea of it." In other words, we ought to *see* things as they are in reality, i. e., when we *do not look upon them.* Tolstoy in his *Childhood and Adolescence* tells how he, whilst still a child, tried to do it: having come to the conviction that things were perhaps in reality not as they appeared to us, he endeavored by quickly veering round, so to speak, to catch things unawares, while they as yet had no time to change their aspect under our glance. But, since this is quite impossible, any attempt to prove the reality of the world in some indirect way must be abandoned once and for all.

Of course, attempts have not been lacking to take the sting out of the problem and to allay, so to speak, the inevitable anxiety which our thought experiences when it is caught in this impassable trap of idealism. Thus Berkeley tried to convince us that this anxiety had no reason and no foundation; if we cannot get at the reality, it is only be-

cause the latter does not exist, and that which we *call* reality is our conception of it, and is therefore in our full possession. Hence it must follow that idealism not only does not isolate us from reality, but makes our hold on it for the first time unquestionable. That this is actually not so, and that the above reasoning is a sophism, may be seen from the fact that Berkeley's idealism does not recognize the existence of matter and the material world, and that for him every necessary illusion, as e. g., the perception of a stick being broken when put obliquely into water, is just as real as any other actual perception. Consequently, the world into whose possession he installs us is, in any case, *different* from the world of a "naive realism." It would not be difficult to show that the former is not a "world" at all, i. e., not a stable, lawful, self-established unity of substance, but only our continuous sequence of perceptions. We might just as well try to console a man who had been imprisoned in a solitary cell by saying that he was not secluded from the world inasmuch as he retained all the contents of his imagination and memory. The other version of the same theory, according to which reality is but a "constant possibility of sensations," is just as little reassuring. It presupposes that in order to get an actual hold on reality it is enough to be certain that whenever we should look at things we should find them in their place, i. e., that we should have corresponding "sensations," and that whatever else we might read into the meaning of reality would be vain and senseless "metaphysics." Yet there is a great and essential difference between this fairy-like world of philosophical idealism which opens to our gaze and disappears as soon as we turn our eyes elsewhere, and the stable world of "a naive realism" which exists independently of our perception of it; between the things which are every moment created and destroyed by our

faculty of perception, and the world which has been once for all created by God for our use; between the world which *is* only *because it is perceived,* and the world which is perceived *because it is.* If this conviction of reality which is independent of the chances of perception and is *continued between two subsequent perceptions* should be termed by us "metaphysics" we must still remember that it is precisely these metaphysics which form the essence of that conception of reality in which both common sense and science believe.

Common sense believes that both I and my consciousness have their part in the world, forming a small and dependent part of reality. Idealism, on the contrary, asserts that the world and reality exist in me, in my consciousness. These two propositions are utterly unreconcilable, and therefore no attempts to interpret idealism in a reassuring way can be of any avail. We can only hope that they might be reconciled if the meaning of the conceptions in question should be changed. Indeed such an attempt was made by the so-called objective or transcendental idealism. It has been rightly pointed out that the "ego" with which idealism deals cannot be identical with the empirical "ego" which is meant by common sense. The "ego" which possesses the whole reality, as a totality of its conceptions, is apparently the pure all-embracing universal thought; whereas the empirical or psychological "ego" is not the subject, but the object of knowledge, and as such it is only a part of the world, a small particle of the total complex of conceptions possessed by the transcendental "ego." We need not here enter into a discussion of universal consciousness itself, in relation to which the whole world is transformed into a complex of ideas or thoughts. It is enough to show that the distinction between the transcendental

and the empirical subject, between the great and the small "ego," does not in the least help us out of our difficulty. For, obviously, the problem of the reality of knowledge has to do not with the knowledge of some universal omniscient and all-embracing being, but only with our limited human knowledge, i. e., with the knowledge of the empirical ego. Hence a new question arises: what is the relation between the knowledge of the empirical ego and the knowledge of the transcendental ego? One of the two: either our empirical ego possesses from the outset the whole ideal contents of the transcendental ego, surveying the whole realm of truths and ideas—in this case it *coincides* with the transcendental ego and, consequently, every one of us is such a universal, all-embracing, and omniscient being,—but this is obviously absurd; or, the universal realm of truth possessed by the transcendental subject is *outside* our empirical consciousness, is transcendent to it, and the latter penetrates into that realm but gradually, and always partially and with some difficulty. If that is so, we again face the old problem: how can our consciousness transcend its own limits and get hold of that which is outside it? Obviously it was not worth while doubling our consciousness and building a problematic conception of an all-embracing consciousness in order to return to the same spot from which we began our reasoning. For the riddle of how our consciousness can get possession of the transcendent consciousness which is obviously outside it, beyond its limits, is not more easy to solve than the main riddle of the theory of knowledge, which is: how does consciousness get possession of reality? For the problem of the transcendency of the object comes home with the same force, and this far-fetched idealism appears quite superfluous after it has lost the only advantage which made us turn

to it; it has not kept its promise to make the object of knowledge immanent in our consciousness.

It is clear that idealism in all its variations and in spite of all the attempts at a reassuring interpretation is directly and irreconcilably opposed to the evidence and faith of "common sense." At the same time it is quite impossible to cast off its trammels and get at the truth in some indirect, roundabout way. We are faced with an alternative: either we must once for all subscribe to the doctrine of idealism, or we must reject it from the very beginning, *"a limine,"* having discovered the fallacy of its starting-point. But, to tell the truth, such a dilemma does not even exist. For even if we should elect, contrary to the leadings of common sense and instinct, to hold on to the position of idealism, we could not possibly do so, since, as we have just seen, idealism harbors a contradiction within its own system, if it is consistently thought out to the end. For, it must admit the transcendent character of the object of knowledge in relation to the knowing subject; it must come to the conclusion that human knowledge always presupposes that the subject must transcend its own sphere and get hold of something independent of it. In other words, the belief of common sense that the reality which we strive to know is independent of our ideas is not merely a matter of blind faith, but answers to some objective ineradicable structure of our knowledge. In every act of knowledge, i. e., every time that we think that we know or get to know something, we have the conviction that that "something" *exists* quite independently of our knowledge. This conviction and nothing else we call *knowledge*. The conviction of the objectivity of knowledge is identical with the conviction of the independence of the object of knowledge, i. e., of the reality itself, from the process of knowl-

edge. Therefore we must either abandon all hope of solving the riddle of knowledge, or—quite regardless of our sympathies and the demands of common sense—explain knowledge as the knowledge of *reality*.

But we have already seen that it is quite impossible to solve this problem in some roundabout way, by means of some hypothesis or reasoning. Therefore, the only possibility that remains is to discover the primary self-evident and unavoidable presence of the reality itself in every act of knowledge, in our every thought. In other words, we must prove, or rather *show*, that there is *really nothing to prove*, that it is enough to learn to see directly the nature of knowledge in order to understand that any doubt as to reality is absurd. It is necessary to show that the contrary thesis of idealism is not only insufficient, improbable, and inconclusive, but that it is simply *inconceivable*.

As the starting-point of our argument we shall take the idealistic thesis in its purest, clearest, and acutest form, as it was presented by Descartes' *"Cogito ergo sum."* I can—and therefore I must—have doubts as to everything, but doubting everything, I cannot at the same time doubt the existence of my doubt, i. e., of my doubting thought. If I doubt and think, this means that I *really* think, i. e., that I, as a doubting being, really *am*. Generally, attention is drawn only to the idealistic side of this argument. The *only* thing that is incontestable is our consciousness. Let us not again dicuss the correctness of this proposition. Let us only draw our attention to the reverse side of it. Let us suppose that I exist only as an abstract thought; still in this sense I do really *exist*, and every doubt as to that reality is absolutely senseless, for every doubt implies that reality testifies irrefutably to its existence. And that reality,

the reality of my ego or my thought, is not simply my (or anybody else's) "perception;" it *is,* not because I am aware of or perceive it, i. e., not because it is an object of my thought. On the contrary, I am aware of it only because it *is,* quite independently of anything, and I merely realize its obvious presence. *It is,* not because I am aware of it, but because I belong to it, because it shows and reveals itself in me directly and in person. And therefore—as St. Augustine, who first uttered this idea, said—I have to fear no objections of sceptics in this case, for every doubt, by its very existence, confirms the evidence of *this* reality.

Thus idealism itself is turned into *realism.* Although it essentially limits the scope and contents of reality, it does not deny the fact itself. It cannot do so simply because such a denial would be absurd; in order to deny something one must *be.* Being is a primordial principle, the root of everything else, including all doubt and denial, and, therefore, something utterly and absolutely undeniable.

"All right," the reader may say, "but so far you have been merely quarrelling about words. Idealists do not deny that sort of reality. You call its admission realism, while *they* call it idealism. You have not made a single step forward. Our discussion refers to something else—not to the reality of the subject, but to the reality of an outward, independent world. It remains as yet unproved and it is unprovable."

I shall, however, ask the reader to have a little patience. We are only at the beginning of our argument. Yet to my mind it cannot be said that we have not moved a single step forward. On the contrary, we have discovered something very essential. Although that reality, the self-evidence of which we have discovered, is only

the reality of the subject, it is nevertheless a genuine reality, and not a conception thereof. That reality does not merely send a representative to our consciousness; it is, so to speak, a living presence within us. Therefore we can already say that this reality—as every true reality—is *independent of its subject,* precisely in the same sense in which it is independent of the opinions and ideas of the subject.

In order better to understand where we have come to let us compare this idea with one very old argument which enjoys the bad fame of being a pure sophistry and is regarded as having been long ago refuted. We mean the so-called "ontological proof" of the existence of God. It is known that Anselm of Canterbury, and after him many other thinkers, including Hegel, have affirmed that by thinking the *idea* of God we thereby, through a mere analysis of the content of that idea, come to see the reality of His existence. To think of God as non-existent is to fall into a logical contradiction; it is tantamount to thinking that black is white. There is no need to examine here how that was sought to be proved, for the usual refutation of the doctrine refers not to the method of proof but to the thesis itself. It is pointed out that there is, and can be, no idea which by itself, on the strength of its own logical contents, can guarantee the reality of its object. All things in the world may be equally imagined as existing and as not existing without in the least affecting their ideas. We also do not go here into the question as to who is right with regard to the idea of *God*—the adherents or the opponents of the ontological proof. We merely wish to point out that the argument of its opponents *in its general form,* as mentioned above, goes beside the mark and stands in contradiction with the result which we obtained

in discussing the problem of reality. Perhaps it is impossible to prove the true reality of God—and many other things—by a mere contemplation of its idea; perhaps the clear understanding and comprehension of the idea does not guarantee the real being of the object, and between the idea and the reality there is a hopeless *hiatus irrationalis*. But at least in *one* case this does not obtain. For we have seen that we cannot think our own ego, or our own thought, without perceiving at the same time its *reality*. We have in this case something that cannot be thought of as *only ideal,* something which is firmly and deeply rooted in the soil of reality, and cannot be torn out. In thinking of our consciousness we meet with something that we cannot think of at will as existing or as not existing, for we come across *reality itself*. Thus here, if even only in one point, we actually touch *reality itself*. Its light actually reaches us, be it only through a narrow gap. That solitary imprisonment to which idealism had doomed us, after all does not sever us altogether from reality, for in one point, however restricted it be, we are still connected with it. Now we must closely examine that point. Perhaps that which seemed only a narrow gap will prove to be a large passage through which the light and air of genuine reality will freely flood in upon us.

Let us, however, be patient even now. In examining closely the result to which we have come, we shall see not only that we cannot amplify it, but that we must essentially limit it. The point is that the thesis *cogito ergo sum,* taken as a whole, is not at all as obvious as it appears at first sight. That in it we have come across *some* reality directly revealed to or in us, across *something that obviously exists*—this is unquestionable. But it is as yet not quite clear *what* is that obviously existing

something. Is it really my ego, my consciousness? If so, what precisely do I mean by it? We need not now repeat that which has been known and repeated by every idealist since Descartes, viz., that by my ego I cannot in this connection mean either my body, or my empirical life, or anything in general which makes me a concrete empirical part of the world, for all that—just as the outer world itself—is only my "idea;" it does not exist, it only appears. This is obvious. But let us take "ego" as pure thought, as consciousness, as subject, to the exclusion of everything that belongs to that subject in the capacity of its object or conception. Is the reality of that ego so obvious? I know that I am going to die, and, if I do not believe in the immortality of the soul, it must mean to me that I shall not thereafter exist; at any rate such an issue is possible; however terrible it may appear to me, it is conceivable. Still more certain is it that I did not exist before I was born. Thus the idea of *non-existence* in the past and in the future is at any rate compatible with my ego, and we have evidently acted too rashly when we just said that the ego could not be thought of as non-existent. But not only the past before my birth and the future after my death are uncertain as regards their reality. The past and the future which form a part of my life are after all just as uncertain. It is true that I remember the former and imagine the latter; but both my remembrance and my imagination are merely my ideas which may be false. If I may doubt the reality of the table which I now see before me, why may I not doubt the reality of my past, of the previous being of my ego? How can I prove that I did not spring into existence just now, in this very instant, and that all my thoughts about the past are *only* thoughts of the given moment to which I ascribe a reality in the past? I do not have immediate possession of the past. Nor

have I got the future—I have not got it *as yet*. Only the present moment cannot be contested. I must therefore narrow down my thesis and say: "I am in the present moment"—all else is questionable. That narrowing down means not only a quantitative limitation of the principle, the reality of which we have found out; it implies also an essential qualitative modification. For I cannot conceive my ego, my personality, otherwise than as a lasting identity or unity of consciousness. When it is reduced to something which exists only at the present moment, it disappears altogether as ego, as personality. Therefore I am really no longer entitled to say without qualifications that "I evidently exist." I must approximately say thus: "Of that which I usually call my ego something—that something being indescribable and indefinable even—exists at the present moment." It would be simpler and better to put it like this: "The present moment of being exists immediately and evidently, the reality of everything else, including my ego, is doubtful, it is only an "idea." (I cannot even say "*my* idea," because the ego itself is not given me in reality.) "Consciousness," "subject," "ego" are no more evident than any object. Only one thing is evident; that something which fills the present moment or, which is the same, the reality of that very moment.

We have now reached the very limit of scepticism. Even about my own ego I cannot say with certainty that it exists. The only thing that does exist unquestionably is the present moment. This point of view may be called "idealism of the moment" or "momentism." It seems that there is no way out of this extreme scepticism. Yet having thus reduced the certainty of reality to a minimum, we have at the same time arrived at a very essential alteration of its qualitative definition. We have seen

that the ego, my consciousness, subject are no more certain than the non-ego, the outer world, and everything objective. We have seen that that which we can take for certain is not only *smaller* than the ego and my consciousness, but that it is also something *different*. If I try hypothetically to imagine the state which would be wholly confined to the living in that present moment (which can be done only approximately, under certain conditions, as we shall see below), then I shall immediately see that "ego," "my consciousness," "subject" are *just as absent* in it as any object. If, for example, on recovering from a deep swoon I should in the first moment feel nothing except a slight din in my ears (or rather except that unspeakable sensation which I *afterwards,* having fully recovered from my swoon, should define as "a din in my ears"), it is evident that at that moment "ego consciousness" and "subject" exist no more than the objective world; there is only that inexpressible *something*. By saying *"I* feel a din in my ears," I do not in this case state something which is given immediately, but I build up a theory which presupposes a belief in something which is not given. That which is given is so small, so insignificant and undefinable, that it does not as yet belong *to any sphere of reality,* but is a mere amorphous presence of something. Speaking of it we must say *est* rather than *sum;* or perhaps the third person is as little applicable to it and we may apply to it only the indefinite *esse*.

This conclusion is extremely important, and it must be thought out to the end. It is only because of the old false habit of thought that we conceive "subject," "consciousness" and "ego" as something more immediate and primordial than the object. When I am conscious of "myself," "my consciousness," I am *just as much out-*

side the limits of the immediately given, am just as much believing in the transcendent, as when I am conscious of the object. Psychology—even the psychology based exclusively upon self-observation—is just as much the science of reality objectively existing unto itself and independent of the given direct perception, as, for instance, physics. And even the theory of knowledge, the science of the abstract ego, of the subject of abstract thought, is a science of the objectively existing. Both here and there, there may be mistakes and errors, just as in every knowledge of the object; that is, the opinions may not coincide with the reality itself. In both cases we build up conceptions; that is, we link together the immediately given with imaginable contents of a hypothetical sort. It is enough to remember how many discussions have been provoked in psychology and philosophy by this very "ego" or "consciousness" which is supposed to be immediately given to us. That which is really immediately given cannot be expressed in any terms, whether "subject," "consciousness," or any other. If we cannot call it an "objective reality," it does not follow that we must call it a "subjective state." It is so indefinite that it does not allow *even* of such a definition.

But at the same time—and this is just as important—it may serve as a starting point of *any* definition, and potentially allows it. It is important to realize that all our definitions are relative; each is possible and has a meaning only in connection with and in relation to the others. If I say "subject," it means "that something which perceives the object," just as the "object" is always an "object as viewed by the subject." Therefore to admit the existence of a subject without an object, to admit consciousness without that which is its opposite, i. e., that of which it is conscious (for otherwise there would be

no consciousness) is tantamount to admitting the "right" without the "left," or the "upper" without the "lower." Therefore when I pass (on what grounds we do not as yet know) from the immediate experience of the immanent something which fills the given moment to its logical analysis and definition, when I, for instance, feel entitled to call it the "state of my consciousness," I must at the same time characterize as *such some definite objective content.* If I say: *"I hear* a din," I also say: "I hear *a din,"* a real din. Althought it be only in my ears, although it be only a "psychic reality," it is all the same an objective reality (in the psychic sphere) and not my opinion; it is also actually a din, not a colour or something else. And if this first moment of the awakening of my consciousness which we have described were filled not with a "din in the ears," but, let us say, with the perception of the face of my friend bending over me, then in the subsequent analysis this experience would be divided into the subjective process of *my perception* and the *objective* (in this case physical) *reality* of the human face seen by me. Therefore as principle it would be false to describe the immediately, immanently given as the subjective state or contents of consciousness. The immanently given experience of the present moment *either* allows of no definitions, stands, so to speak, *below* the level where a distinction between the subjective and the objective can be drawn; or it is at once divided into two moments, the subjective process and its objective content. The thesis of idealism appears thus to be false at the root.

Although the first thing that is given me is certainly not some really objective reality independent of me, it is also not my "ego," "my consciousness," etc.; the first thing that is given me is *something in general.* And the

first reasoning which I am entitled to utter runs thus: "Something (actually and evidently present at the moment) *exists,*" and the word "exists" refers here neither to the objective, nor to the subjective reality, but to reality in general, the primordial and immediate reality. This first truth upon which all the rest are based does not as yet entitle us to *objective realism* (which admits the reality of things independently of our perception of them), but it is incompatible with subjective idealism. The thesis may be called *absolute realism.* The first thing that appears self-evident to me is not some separate content—be it "things" or my "ego" or consciousness—but *reality in general,* the *fact that something is.* It is impossible to deny it. The contrary assertion, viz., that *"nothing exists"* is a senseless complex of sounds, not a thought deserving discussion. Only then arises the secondary question, "What then does exist"?, i. e., what contents belong to reality?

Perhaps the reader will again say that we have not moved any further. Let us admit that that which is primordially given to us cannot be called consciousness or subject; but in any case it is smaller not greater than the latter. We have only tried to define more accurately that which has been immediately given, the immanent, and in doing so we were compelled to narrow it down as compared with idealism, reducing it to the content of the present moment. We do not see as yet that which we must attain in order really to solve the problem—the objective transcendent reality.

Certainly we have as yet achieved very little and are still in the incipient stage of our reasoning. But in reply to this reproach we should like to emphasize once more one very important result. That which is immediately given is not a *closed and separate sphere*

of the subjective and as such divided by an impenetrable wall from the true reality. It is a *point of that reality*. However small this point may be, the fact that we have attained it gives us more hope of further progress than if we had just remained in the same closed region.

At first sight it seems that there is no way of passing from this point of immanent reality to the whole measureless scope of transcendent reality. Yet we have only to work out further this analogy in order to see that the contrary is true, i. e., that with that single point the whole *measureless space to which that point belongs is given to us immediately and at once*. Everyone can understand that such a point would be inconceivable outside the space, so that if we possess that point, we also have the whole space to which it belongs. Is it not the same with our point of immanent reality?

Yes, it is just the same. What does that point of immanent reality represent? We have seen that it is the present moment. But what is the present moment? In everyday life we stretch the meaning of the word "present" and make it purely conventional by speaking of the "present hour," of the "present day," of the "present year," and even of the "present age," which may cover several decades. In this conventional every-day sense the word "present" obviously refers to the nearest segments of the past and the future. But it is clear that we do not use the word in that meaning; we speak of the present moment, understood strictly, as opposed to *all* past and future. Used in this sense the present has no duration. Time itself never stands still; it never can be compressed into the present; it is always either the passing from the past to the future, or the realization of the future which passes into the past. Time flows and in this incessant flow the "present," strictly speaking,

is but a point through which the future passes on its way to the past; it is an ideal *demarcation* line between the past and the future. After all, everything that we are conscious of belongs not to the present, but to the past, since by the time we have become conscious of it, it has already turned into the past.

What then shall we do now? Did we not say in developing the idealistic thesis that there was no past and no future, *only* the *"present"?* But if the present is but an ideal *demarcation line* between the past and the future, it must disappear in the abyss of nothingness together with them; for a demarcation line is a line separating two realities; a demarcation between nothing and nothing is itself nothing. But in that case *there is nothing,* and we have come to the position the absurdity of which we have just demonstrated. Or perhaps we ought to correct our statement and say that the immanently given present is not a moment, a point, but the unity of the nearest segments of the past and the future, so to speak, a small bit of time. But then I should like to ask you to define the limits of that bit and explain at what point precisely the past and the future transform themselves from reality into nothingness, and how exactly that miracle is achieved, i. e. how we are to imagine that real bit of time surrounded on both sides by *nothing.* A river, or a line of time, which would itself have a beginning and end in time, is also an absurdity, for every moment of time presupposes the moment which precedes it and the one which follows it, so that time in itself has no end.

Perhaps we could say that the reality of the present is surrounded on both sides by *empty* past and future, by empty time containing nothing. But apart from the difficulty mentioned above, viz., that the past and the future merge themselves in the present, thus constitut-

ing an indivisible whole, we should thereby admit not only that the present is immediately given to us, but the present surrounded by endlessness, be it only the endlessness of an empty abyss. Yet even an empty abyss is *something,* not nothing. On the other hand, an empty abyss of time is also an absurdity. The movement of time means that *something* is transposed in time, a current is inconceivable without the flowing water. Where there is nothing, nothing passes and there is no time.

Wherever we look we always find ourselves facing absurdity, and this absurdity is the fatal outcome of our attempt to establish the *point* as *the exclusive* reality. The only course open to us is to admit the self-evident opposite truth, i. e., that every point forms part of a whole, of its own background; consequently that the *immanent reality of the present bears a direct and immediate testimony to that illimitable reality of which it is a part.* This is no abstract conclusion. We have already said, and we repeat again, that no mediate way can lead us to a reality which has not already in some manner been given immediately. It is only a more exact description of what has been given in a self-evident and immediate way, of that which is inherent in our own experience. Immanent reality, all that exists palpably and self-evidently now, at the present moment, is not the only thing that is accorded to us. We possess in as immediate a way the whole eternal reality surrounding it, for immanent reality is given to us immediately precisely as a part of the greater whole. The transcendent as such, that is as something lying beyond the limits of the nearest given data, is accorded to us with as much self-evidence and immanence as that which is considered immanent.

In other words, when we describe objects immanently

given as a moment of the present, we qualify it with an idea that is foreign to itself. We discuss it not from the point of view of its inner contents, but, so to say, outwardly, from the point of view of a consciousness that approaches the object from outside, trying to make it subservient to some preconceived idea. In itself, and, so to say, for itself, immanently given reality is not a "moment of the present," but is just all that it is. If we try to grasp the full meaning of its contents we see that it subdivides itself into the clearly defined "present moment" occupying a predominant position and the dim background of the past and future. We see, so to say, the sharp point of a cone which has its foundations in limitless depth; or again, we can compare it to a brilliant point on an illimitable dark background. Not only the perception of this immanent point of reality has been given us, but also its *differentiation* from all that lies beyond its limits or, in other words, the great beyond itself is given to us. Otherwise we are unable to conceive this point as immanent reality. For this conception expresses its own peculiarity, that is its diversity from something else, from something that is different from it; consequently, to this conception of what is immanent is added the conception of that which is "different from it," just in the same way in which a brilliant point is united with its contrasting dark background. We are in possession not only of the "present moment"; if it were all we had, we could not be said to possess it either, for possession implies the faculty of differentiation. What is given is the whole illimitable absolute reality of which the "immanent" and the "present moment" form but a part and are contrasted with the dark abyss of that which is "transcendent."

The same reasoning can be applied to the limits of

space of the "given" and "visible." At every given moment a comparatively small expanse is visible to me, only so much as enters my field of vision. Have I however the right to say that this small particle of space is *all* that is given to me, that nothing exists beyond its limits? Am I justified in affirming that this expanse is the *only* existing reality for me? But its very limitations presuppose the existence of boundaries; these boundaries separate it from something different, else they would not be boundaries; and consequently it is clear that it must be surrounded by something different, by some other expanse, even though it remain invisible to me, and I am therefore not directly cognizant of it. In fact this limited "field of vision" is not a "separate part"; that is, it has no fixed limits; its central, clearly defined part is surrounded by a more dimly perceived periphery, which, in its turn, gradually merges itself into that which is invisible. The "visible" and the "invisible" form a continuous whole; in a certain sense the invisible has been given us in just as immanent a manner as the visible. In other words, I conceive the "visible" as part of the invisible.

Consequently all that is immanent, all that is palpably evident here and now, can be conceived only as a part of something limitless, of a great unrevealed whole. Of course the fulness of an illimitable reality has not been actually accorded to me; else I should be an all-knowing being, possessing complete vision and power. But in a potential state, *in its very unattainableness, it* has been accorded to me. The fulness of reality beyond the limits of my actual direct perceptions remains a mystery for me, a something unknown. But the very presence of such a mystery, the existence of depths unfathomable for me at the present moment, the presence of a hidden

reality—this is accorded to me in an absolute, immediate and primordial way. I do not know in an immediate manner what is the exact content of that which exists beyond the limits of what is directly given to me. But that something does exist or, in other words, that the beyond does exist—this I know with a full and complete immediate knowledge.

The fundamental mistake of every kind of idealism consists in its denying the idea of the transcendent without investigating its origin or meaning. Either such ideas as "immanent" and "transcendent" are quite devoid of sense and are nothing but meaningless words which do not correspond to a real differentiation, in which case all idealism is as devoid of sense as realism, since it also is founded on these conceptions; or else these conceptions are founded on sense, in which case we can, and must, find the material given us immediately sufficient for *both,* for both at the same time, inasmuch as it is only in such a mutual relationship that each acquires its positive meaning. In this case we must perceive the immediateness of the transcendent. This we have succeeded in doing.

We can express the same thought in other words. The word "immanent" possesses two different meanings which must not be confused. In one sense, what is "immanent" is opposed to what is "transcendent," and thus understood it would, of course, be tautology to say that what is transcendent has not been given. That which we call immanent and which we say has been given us in this sense is applied to what has been clearly revealed, or, shall we say, given without any hindrance. But taken in its other meaning, that which is "immanent" or "given" denotes that which has been present from all times, that which is the object of our inherent posses-

sion, as opposed to all that is secondary or acquired. Taken in this sense, that which is transcendent is as immanent as that which we call immanent; otherwise we should not be able to speak about it, and even the idealistic thesis would be impossible, for nothing would exist to be denied.

Every knowledge is the revelation and unfolding of something that had thitherto been hidden and unknown. Knowledge reaches out towards and aims to investigate the unknown. But this would be impossible if "given" and "known" were synonymous. How were it possible to seek and find, if only that which was self-evident and before our eyes were attainable? It is clear that the immediate and self-evident presence of depth, of the mysterious unknown, the immanent *self-evidence* of the *unknown* are the conditions, and possibilities, and meaning of all knowledge. But it is just this presence of the unknown, the reality of that which is not directly evident to us, of that which is whether it be revealed to us or not, that is the aim of knowledge, viz. objective reality. Objective reality is something quite independent of our knowledge of it. Consequently it is something independent of us, though not inaccessible to us; it is independent of our having fathomed it or not, but just in this independence does it merge into one primordial whole with our own reality, and is our own inborn, inalienable heritage.

The fundamental aim of epistemological reasoning consists in the conception of that great all-embracing whole which envelops both "us" and that which is "outside us"; it consists in understanding that "it" and not "we" or our "consciousness" is the primordial higher conception which must lie at the basis of our reasoning. The question whether reality is only "in us" or whether

it exists "outside us" as well is answered when we clearly see that we belong to its reality and that, consequently, it is both in and outside us. Reality is the elemental environment surrounding and transfusing us from all sides, and as such we have the immediate evidence of its presence; it is that higher unity in which, and through which, both we ourselves and that which lies "outside us" grow possible. Just as the existence of separate bodies can be thought of only in the unceasing entity of space surrounding and transfusing them, their separateness being but another side of their unity, as parts of the one and only world of space, as particles of a continuous whole—just so the separation between objects of the world and our own consciousness, their independence of "us," is a result which is possible only in an atmosphere of their conjointness with us, in the unity of the primordial, eternal reality, of which our ego is but one of the manifestations. We are closely connected with reality, have, so to say, our very roots in it, and the point at which it manifests itself is our ego; or even, as we have shown, that point may be a still more restricted one: that of the passing present moment. But by having our roots even only in this one point, we are thereby conjoined to its unity and wholeness; therefore all its other parts have their close being with, and in, us and we have potentially the mastery over the whole, even though the greater part of it is actually invisible to us. Yet notwithstanding this, it belongs to us in the same sense in which the treasures hidden in the earth belong to the owner of that particular plot. Practically they may be quite inaccessible to him, or accessible only after much hard labor; they may be far from him, but still he is undoubtedly their lawful owner.

We can now see wherein lies the fundamental diffi-

culty of epistemology in interpreting the problem of reality, the fundamental consciousness of the insolubility of this problem. It proceeds from a subconscious conviction of the atomistic construction of reality, of its being composed of separate, finite, and solitary parts. The belief in the finiteness of individual consciousness is but one of the manifestations hereof. According to this conviction the world is a conjunction, a mechanical aggregate of separate, finite, and self-sufficing objects, and our ego, our consciousness is one of these objects. It is conceivable that these different objects should intermingle and influence each other, but it would be impossible for one of them to know the other; for knowledge always presupposes an overstepping of the boundaries of the ego; it betokens a certain conjunction with its object and a complete possession of the latter. (Likewise it would be impossible that one object should *love* another, should live for it. From such a point of view true ethics are as unattainable as the theory of knowledge—however this problem oversteps the boundaries of our theme.) Outwardly our consciousness appears to be torn away from the world by our body. Only through the organs of sense does the outward world react on us, producing certain sensations; but, of course, it can never enter our consciousness; inwardly each individual consciousness is also self-sufficing, separate, and unconnected with the existence of other objects. Of course common sense and the direct consciousness of practical life do not allow such a view. However widespread the dominion of egoism in our own life, however acute our spiritually self-sufficing standpoint, however lonely the feeling of each one of us—still we all live only in so far as we have a vital consciousness of a common unity and reality of the world surrounding all of us, only so long

as we feel the connection between our spiritual life and the life of others, only so long as we possess, if even only dimly, a feeling of our inner connection with God, of our dependence on Him. But when we attempt theoretically to reason about our life we build up a mechanical atomistic scheme of reality as of an aggregate of independent objects, which scheme takes hold of our thought and kills the consciousness of the organic wholeness of reality, or transforms its unavoidable presence into an unsolvable riddle.

The idealistic theory of knowledge is only one of the results of this mechanical viewpoint. It is not at all a statement of some evident fact. On the contrary, it insists on the thesis of a self-sufficing consciousness, notwithstanding all the contradictions to which this must unavoidably lead; it is the consequence of harmful, arbitrary, and false metaphysics. When we reject such metaphysics and look openly upon reality—both our own reality and the reality of what surrounds us—then we shall first of all be convinced that our consciousness does not belong to a separate self-sufficing sphere, doomed to an eternal separate existence. Consciousness cannot be looked upon as a kind of receptacle, closed on all sides, containing only that which is in it; it is not something inclosed "in our bodies"; for, after all, "our bodies" contain only our organic sensations localized, so to say, in different parts of our bodies. It can sooner be likened to a ray or shaft of light thrown outwards to illuminate that which is outside and before it. It is not necessary for the room to be encompassed in the narrow limits of a lamp, for the latter to be able to illuminate the whole room; nor can we say that the lamp illuminates only its own self. Just so it is not necessary that the world should be inclosed in the limits of our own ego in order

that our consciousness may learn to know the world. On the contrary, our ego even while remaining its own self, i. e., a small point of reality, sends forth from its own inner self a shaft of light which illuminates all that lies outside its own being. But this is possible only because our ego, while being a ray of light, is at the same time something much greater. By the very fact of its *existence,* it becomes a part of reality; and as reality is no aggregate of separate parts, but a primordial unity of a whole, our ego, being part of that reality, is at the same time potentially the whole of reality; it is filled with its universal primordial elements, having at the same time its own centre; for every particle of reality is its centre. Consequently it possesses immediately and wholly the full complex of reality, even before it is illuminated by the light of knowledge. The luminous point of consciousness sees from the start in and around itself the expanse it is destined to illuminate. With the help of this unity of reality, which encompasses both it and everything else, consciousness acquires an inherent living conjunction with everything that is outside itself, with all the different objects of which it becomes cognizant. The conviction that the objects of which we grow cognizant really exist independently of our own existence, is founded on the consciousness that these objects are not ultimate self-sufficing realities, but only subordinate and arbitrary parts of the all-embracing, complete, full reality which encompasses both us and them and the possession of which by us is both self-evident and unalienable.

Speaking above of the so-called ontological proof of God's existence we pointed out that the principle of this proof can in any case also be applied to our own inner reality. However, our further reasoning has shown that the primal content which is truly and self-evidently

given to us is not really our ego or our consciousness. We began by showing it to be the immanent present moment, and then we argued that together with this we have just as evidently given the complete all-embracing unity of the whole reality. We may now therefore affirm that the ontological proof can be applied just to the whole all-embracing unity. You cannot conceive it without thereby perceiving its real presence; for just it is the source and foundation of the reality of all that is separate and not universal, which grows possible only as part of the whole—as, so to say, proceeding from it.

The problem of reality and the possibility of real knowledge is unsolvable so long as our attention is directed only outwardly towards the external world, which apparently consists of separate objects, unconnected in respect either to themselves or to us. It is unsolvable so long as we ask whence we know and what guarantees to us the reality of these things. But it solves itself, and the answer grows clear and self-evident, when we direct our mental gaze inward and perceive the connection between ourselves and the unity of the complete perfect depth of reality, in this way re-establishing the lost connection with the outer world. And so we see that the epistemological problem of reality is not simply a scientific question or problem of logic. To be able to solve it we must learn to perceive those primordial elements which we are so prone to forget; and to do so we need that "change of spiritual vision" of which Plato spoke. Without it no true philosophy is possible. The solving of this problem is at the same time a religious achievement; it is the awakening of the forgotten voice from the profoundest depths of reality.

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SENSATIONS, SENSE-DATA, PHYSICAL OBJECTS AND REALITY

THE purpose of this article is to examine afresh, starting from the simplest experience, the relation between sensations, sense-data, physical objects and reality.

1. *Sensory Awareness*

Let us begin with an examination of simple sensory awareness, and let us take a very simple example. If I am on the sea-shore I may become aware of a wave in five distinct ways: (1) I may see it, (2) I may hear it, (3) I may smell it, (4) I may touch it, (5) I may taste it.[1] At the level of developed experience[2] I may be aware of the wave in each of these ways, irrespective of the others. My visual sensations, even when all the other avenues of sense are blocked, give me the awareness that it is a wave. Similarly, certain auditory sensations, apart from sensations supplied by any other sense, may give the awareness of a wave. And so of the other senses. Each is capable, in my developed experience, by itself and in isolation from the others, of giving me awareness of a wave.

But what justification have we for saying, in each case, that the object of our awareness is a wave? It is obvious, of course, that what we are immediately

[1] I may also be aware of it, of course, through the deliveries of more than one sense.

[2] Note the word "developed." As we shall see below, the elements of interpretation and co-ordination are present in all sensory awareness.

aware of, or what is immediately present to our consciousness, in each case, is simply an aggregate of sensations or sense-data.[3] When I look at the wave, all the other avenues of awareness being blocked, I have, as my awareness, a determinate collection of visual sensations. Nothing but these visual sensations is immediately present to my mind. Similarly, when I hear the wave, all the other avenues of awareness being blocked, I am immediately aware only of a succession of auditory sensations. And so of the other senses.

Further, not one of these senses or ways of awareness by itself can claim priority or privilege. For (a) each is defective, and (b) all are necessary to complete awareness.

(a) Not one of these ways of awareness gives by itself complete knowledge. A certain collection of visual sensations may be taken by me to represent a cat. But if the light be very dim, or my eyesight be bad, it is quite possible that the visual sensations which I take to represent a cat may really be occasioned by the presence of a dog. Similarly of the other senses. In each case, if one be taken by itself as supplying complete awareness, error may result. Each sense or way of awareness is defective.

(b) When the evidence obtained by one avenue of consciousness is corroborated by that supplied by others, the liability to error is, in general, progressively diminished. If I have both a collection of visual sensations of a certain kind, and also a collection of auditory sensations of a certain kind, present to my consciousness, my awareness of the object is more certain than it would be if the awareness came through only one sense. And if I am aware of an object, e. g., a wave, in all the possible ways of awareness, i. e., if I have present in consciousness a

[3] I use these terms, in the mean time, as though they were synonymous. This, however, is an assumption which will be examined later.

determinate aggregate of visual sensations, a determinate aggregate of tactual sensations, a determinate aggregate of auditory sensations, a determinate aggregate of taste-sensations, and a determinate aggregate of olfactory sensations, my awareness may be said to be "complete." Awareness, then, is validated or certified by the number of ways of awareness co-ordinated in it.

It is clear that these aggregates of sensations need to be co-ordinated. In the sensations themselves there seems, indeed, to be no reason why they should be co-ordinated in certain respects and not in others. It is only by experience and experiment that we learn that certain visual sensations, for instance, are to be co-ordinated with certain tactual ones. There seems to be no reason in the nature of the sensations themselves why one lot should be co-ordinated with any other lot. The connection seems to be purely empirical.

Sensations belonging to one sense are not in any way like those belonging to any other. Visual sensations resemble in no way tactual sensations. The sensations proper to one sense are exclusively proper to it.

Thus the relation of "simple awareness" is by no means simple. It is, indeed, a very complex relation, involving, in its "complete" form, five separate and distinct relations. And all these relations are irreducible. They are all comprised in the relation of awareness, but not one can be exchanged for another, or reduced to another. Simple awareness is thus, when "complete," a complex fivefold relation. Further, as we have seen, simple awareness requires that these five relations be co-ordinated. In their own nature they do not involve any special relation of similarity to one another. That they go together, and provide awareness not of five different objects but of one object, is an inference from experience.

Now, though in its "complete" form the relation of simple awareness is a fivefold relation, it may exist when four of the five constituent relations are in abeyance. We say that we are aware of the wave when our awareness consists at the moment solely in the visual relation. But to put the matter in that way is strictly inaccurate. We should say, rather, that the relation of simple awareness may exist when sensations of only one kind are actually present in consciousness. These visual sensations give us awareness that it is a wave because they suggest to us that under appropriate conditions all the other aggregates of sensations, belonging to the other four senses, which we have previously experienced in the presence of waves, would be experienced again. In other words, an element of interpretation is present along with the particular sensations which we are actually experiencing at the moment.

So far, then, the relation of awareness may be represented thus:—

$$\text{Mind} \rightarrow \text{c} \begin{cases} \text{vs} \\ \text{ts} \\ \text{os} \rightarrow \text{Wave} \\ \text{as} \\ \text{gs} \end{cases}$$

where c represents the element of co-ordination, and vs, ts, etc., the visual sensations, tactual sensations, etc., involved in the "complete" relation of awareness.

When not all these avenues of awareness are open, the relation may be indicated thus:—

$$\text{Mind} \rightarrow \text{c} \begin{cases} \text{vs} \\ \text{ts} \rightarrow \text{Wave} \\ \text{i} \end{cases}$$

$$\text{or, Mind} \rightarrow \text{c} \begin{cases} \text{vs} \\ \text{i} \end{cases} \rightarrow \text{Wave}$$

where vs, ts, etc., represent the sensations that actually are present, and i the element of interpretation which takes the place of the absent sensations.

We have seen that the relation of sensory awareness is not simple, and we must now show that it is not immediate. This might, indeed, be deduced from what has already been said. If the relation of sensory awareness essentially involves the element of co-ordination, clearly the relation cannot be immediate. It is mediated by the factor of co-ordination. And further, in most cases of actual awareness, since all the sensations necessary to constitute "complete" awareness are not present, the factor which we have termed "interpretation" enters, and thus awareness is also mediated by this interpretative factor.

But when we deny that the relation of simple awareness is immediate, we mean more than what we have said in the last paragraph. The relation of simple awareness is mediated, and is doubly mediated, (1) by the bodily sense-organs, (2) by the medium which intervenes between the sense-organs and the object sensed. This medium may be called, for short, the atmosphere. "Complete" awareness is possible only if both these media are present, and present, too, in a normal condition.

Now the individual senses vary in the degree of mediation between them and their objects. Through the organs of touch and taste the mind may have sensory awareness without the mediation of the atmosphere. Awareness through such avenues is mediated only once, i. e., by the sense-organs themselves. We touch the "actual surface" of things, we taste things only when they are actually apposed to the appropriate organ and nerve-endings. But with the other three senses it is different. They give awareness only when the medium of the atmosphere is present, for the organs of vision, hearing and smell are

never actually apposed to their objects. In awareness through these senses, our acquaintance with things is, in general, doubly mediated, by the sense-organs themselves, and by the atmosphere. And the states of these media alter the sensations. Jaundice has an effect on colour-sensations. If the atmosphere be excessively rarefied, objects appear much larger than they normally do. The character of the sensations depends, in a multitude of ways, on the media.

It is clear, then, that awareness by means of vision is not the most direct kind, for while some types of awareness, e. g., awareness by touch, are mediated only by the sense-organs, visual awareness is doubly mediated. How, then, has vision come to usurp such prerogatives as the interpreter of reality? The reason seems to be that visual awareness is the most comprehensive and extensive. The advantages which touch and taste enjoy in their direct relation to their objects are not undisguised blessings. For it follows that touch and taste are confined in their awareness to those objects with regard to which immediate compresence is possible.

Awareness by means of the senses other than touch and taste is possible when objects are at a distance. And of these vision gives awareness of an object at greater distances than the other two. Further, through visual perception we are aware of greater distinctness and complexity in objects than is possible in auditory and olfactory experience. It is for these reasons that philosophy has been apt to interpret reality, as Berkeley at first was inclined to suggest, simply in terms of visual perception.

We have now insisted (for the point seemed worth emphasising) that visual perception is only one of the ways of sensory awareness, and that it is, in some re-

spects, a defective avenue of sense-knowledge. And we repeat that "simple" and "immediate" sensory awareness involves, in addition to the factors of interpretation and co-ordination, the actual or potential presence of five different and irreducible relations.

2. *Sensations, Sense-Data and Physical Objects*

We must now examine our previous assumption that sensations and sense-data are synonymous. Most recent thinkers distinguish in some way between sensations, sense-data, and physical objects, though some of them try to eliminate one or even two of these terms, or at least to reduce them to one another. Thus Mach tries to construct reality out of sensations alone, the American realists want to dispense with sensations, keeping sense-data and physical objects, and Varisco seems to wish to do without sensations and physical objects, retaining only sense-data. And the further question arises whether sense-data, if they exist, are mental or non-mental, psychical or physical. Prof. Stout calls them mental, Prof. Alexander non-mental; Prof. Varisco calls them psychical, Mr. Russell physical. Instead of examining the views on both sides in detail, I will state another theory, perhaps rather dogmatic in language though not in spirit, which coincides with none of those which have been mentioned.

In sensory awareness two elements only are present, viz., sensations and physical objects. What are usually called sense-data are constructs, not sensory elements at all. The distinction commonly drawn between sensations and sense-data is due to pre-occupation with visual perception. In order to support the view thus briefly stated, I will first examine the arguments in favor of the existence of sense-data as distinct from both sensations and physical objects; and then point out how the error of

postulating sense-data as sensory elements has arisen.

Arguments for the separate existence of sense-data have been advanced by, among others, Mr. Russell, Mr. Moore and Mr. Broad. These proofs seem ultimately to reduce to the argument from the "positive incompatibilities between what two people see when they say that they see the same thing, and the positive incompatibilities between what I see at various times when I say that I see the same thing and hold that it has not changed. When I look straight down on a penny I see a circular shape, when I look from the side I see an elliptical one."[4]

Now, on a careful psychological analysis, it will become clear, I think, that these positive incompatibilities do not really exist. It is, of course, admitted that the sensations present in consciousness in the two cases differ, but the difference between the sensations does not justify us in assuming the existence of sense-data distinct both from sensations and physical objects.

In reality, when I look at a penny, all I am immediately aware of is a certain aggregate of visual sensations. It is, strictly, inaccurate to say that what I *see* when I look straight down on a penny is a circular shape. All I am immediately aware of is a collection of visual sensations. These sensations, either by themselves or in conjunction with sensations belonging to some other sense, enable me to infer from past experience that what I have before me is something I have learnt to call a penny, and that it is in a particular position.

When we say that we see a penny, we are speaking metaphorically. This statement might be disputed; but, if we compare visual perception with other kinds of perception, its truth ought to be evident. We commonly say, for instance, that we hear a train, or smell a lily. Ob-

[4] C. D. Broad, "Phenomenalism," *Proc. Arist. Soc.*, 1914-1915, p. 230.

viously what is immediately present in auditory experience is not the train, but simply a collection of auditory sensations. And so of the lily. Now, visual perception is in precisely the same position. All that we are immediately aware of in vision is a collection of visual sensations.

Such phrases as "I see a penny" or "I hear a train" are elliptical. What I really mean when I say that I see a penny is that I am aware, as an inference, based on past experience, from certain present visual sensations, that the object I am looking at is a penny. All that is immediately present in consciousness is the aggregate of visual sensations. That these visual sensations indicate a penny is an inference. Hence we should not, in strictness, say "I see a penny," or "I touch a penny," for merely by visual sensation alone or by tactual sensation alone I do not know that it is a penny.

In other words, all simple awareness is a judgment. I judge that the visual sensations actually present in my consciousness indicate a penny, possessing all the qualities which I have learnt by experience to attribute to the penny. No one sense by itself ever gives us immediate awareness of an object. The factors of interpretation and co-ordination are always involved.

If our argument be valid thus far, it should be clear that the realists' proof of the separate existence of sense-data cannot be maintained. For it is not true, psychologically, that "when I look straight down on a penny I see a circular shape, when I look from the side I see an elliptical one."[5] All that I am immediately aware of by vision when I look at a penny is an aggregate of visual sensations. Now, these sensations *are* sensations, and *they* are not arranged in any shape. That they indicate

[5] C. D. Broad, *op. cit.*, p. 230.

a penny, and that the penny has a certain shape are both inferences from other experience.

And the significant point is that the ellipticality of the penny which I am aware of when I see it from the side is not an immediate visual sense-datum. It is the result of inference, in fact of a double process of inference. This point is of the utmost importance, for, it seems to me, the arguments for the existence of sense-data all depend on the assumption that the differences in shape are immediately perceived; hence, if we can show that such differences are the result of a double process of inference, the grounds for the postulation of sense-data will disappear.

(a) That the penny that we are aware of when we look at it from the side has a shape at all is, of course, an inference. Visual perception alone gives us no awareness of figure. For that the conjunction of tactual perception is required. When we are merely looking at the penny our awareness that it is shaped at all is an inference.

(b) Further, that the penny which we are aware of when we look at it from the side seems to have an elliptical shape is a *second* inference. From the visual sensations which we experience when we look at it, taken in conjunction with *other* experience of its position and distance from us—a very complex whole—we *infer* that its visual appearance is, not circular as it is normally, but elliptical.

This argument may be supported by evidence taken from the efforts of children and primitive men to represent objects which they see. Cave-paintings usually represent animals in profile with two eyes and four legs, and early Egyptian and Assyrian artists do the same. And children's drawings exhibit the same tendency to put two eyes into the profile. Now, the child or primitive artist

has originally constructed, from his sensations, visual, tactual, and the rest, an object called man which possesses, in addition to other attributes, two eyes. This object is a construct, reached by inference. Further, when he wishes to represent man in a drawing, and chooses to represent him in profile, he puts in two eyes because he knows that a man does have two eyes. It is only after further reflection that he is able to judge that certain collections of visual sensations justify him in inferring, as what he actually sees, not a being with two eyes, but a being with one eye. The point is that this is not immediately perceived. It is the result of a double process of inference.

Similarly in the case of the penny. Visual sensations and tactual sensations have in the past coexisted in certain determinate ways, so that a certain collection of visual sensations alone enables us to infer on a subsequent occasion that what we are aware of is a penny. And further experience enables us to infer that what we actually see, in looking at a penny sideways, is an elliptical shape. But this involves a double inference.

Let us now see how far this analysis is corroborated by an examination of sense-experience other than visual. Our point, it may be repeated, is that sense-data, regarded as in some way intermediate between sensations and physical objects, have no existence. We have already seen, from our investigation of visual experience, that there is no good reason to assume sense-data. And we wish now to show that none of the senses require sense-data intermediate between them and their objects.

Take first the other senses which, like vision, are never in immediate juxtaposition with their objects, but are compresent with them only through the medium of the atmosphere. These senses are hearing and smell. Suppose several people are within earshot of, but at different

distances from, a steam siren that keeps up a continual blast. Each will have certain aggregates of auditory sensations, differing from one another according to the condition of the individual's sense-organs, the state of the atmospheric medium, and the distance of the auditor. Now, although the sensations received are actually very different, all the auditors will agree that they "hear the same siren." But all that is immediately present in their awareness is a collection of sensations of a specific kind. From this aggregate of sensations they infer, by an elaborate process, that what they hear is a siren's blast.

Now, even those who have been most prominent in maintaining the existence of sense-data have not usually argued that there is any auditory sense-datum intermediate between such sensations and the physical object. It is admitted that all we really have is the physical object on the one hand, imparting to the atmosphere certain vibrations, and the organ of hearing on the other, receiving these vibrations as sensations. There is no need to set up an auditory sense-datum as "what we hear," distinct both from the sensations and from the physical object. And in strictness we should say, not that we hear a siren, but that, by means of the sense of hearing, we become aware of the siren.

And the same is true of smell. Common sense, indeed, is sometimes apt to assume the existence of an intermediate "smell" between the sensation and the physical object. It usually says, "I smell a rose," but if it wishes to be very precise it says, "I smell the smell of a rose." Now, if this statement were translated into the language of philosophy, it would mean that the smell that I smell is a sense-datum intermediate between the object and the sensation or group of sensations. But this is a self-

sophistication on the part of common sense—a self-sophistication which philosophy should try to remove.

We have still to examine the senses of touch and taste. As we have already seen, the organs of these senses are in a relation of immediate juxtaposition with their objects. Now in the case of taste, intermediate sense-data are never posited, either by common sense or by philosophy, and in the case of touch they are postulated only very rarely. The *prima facie* reason why they are not postulated in connection with these senses seems to be that there is "no room for them." When the object I "see" is millions of miles away, there is plenty of room for sense-data intermediate between my eye and it, but when my finger is actually pressed against the table, there appears to be no room for sense-data between the table and the tip of my finger. This is the reason why common sense refrains from the postulation of intermediate sense-data in the latter case and that it may have exercised a deterrent influence on philosophers may be inferred from Mr. Russell's arguments about "room for perspectives" in his Lowell Lectures and in sundry articles.

And, lastly, a word on "organic sensations." It is universally agreed that there are no sense-data appropriate to them and distinct from them.

We have therefore found, by an examination of all the types of sensation, that sense-data, as distinct from both sensations and physical objects, are postulated with consistency only in the case of vision. And we have seen reason to suppose that the assumption of sense-data in that case is due to sophistication produced by imperfectly successful attempts to analyse the exceedingly complex and mediated whole presented in sensory awareness. And our conclusion is that in sensory awareness we have, in addition to the elements of interpretation, co-ordination and

inference which we have already mentioned, not three terms, but only two, viz., sensations and physical objects. What exactly we mean by physical objects we will consider in the next section.

3. *Qualities, Relations and Reality*

We must now ask what precisely we mean by physical objects. Through our senses we become aware that the objects of our sensations have certain characteristics. These characteristics are commonly known as primary and secondary qualities.

Let us now examine whether the distinction between primary and secondary qualities really does have any sufficient justification. And we must ask, in the first place, whether primary qualities are really independent of perception. Primary qualities are usually considered to be independent of perception on the ground that the deliveries of the senses with regard to them vary very greatly. The real extension of an object, it is argued, could not be dependent upon, say, visual perception, because it is a fact of common experience that the visible extension of an object varies indefinitely as we approach it or recede from it. If then the real extension of the object depended on perception, what visible appearance of it would be the real extension? It would be impossible to decide, for no one appearance seems to have a definitive claim to be the real extension.

Nor is it possible to maintain that tactual experience gives us an immediate awareness of real extension. For simple psychological experiments show that tactual sensations corresponding to the same real extension may vary just as visual ones do. "Apply the blunt end of a pencil to the forehead, to the lips, to the back of the hand, to the tip of a finger, to the drum of the ear. The resulting

tactual sensations vary considerably in extent, though the areas of the skin affected are throughout equal, and the surface with which they are brought in contact remains constant in size."[6] And not one of the immediately experienced tactual sensations has any peculiar claim to be regarded as representing the real extension.

In every case, then, whether extension be revealed to us by vision or by touch, the "real" extension—if such there be—is not immediately presented. It is the result of that process of inference and co-ordination the general character of which has already been explained.

This analysis also holds good of the secondary qualities. Secondary qualities are usually said to be dependent on perception. But what precisely is meant by this? Do we mean that they are not attributes of things, but attributes of sensations? It is certain that secondary qualities are not attributes of sensation in the sense that their existence depends wholly on sensation. If there are two coloured cards in front of me, one red, the other blue, then under normal conditions and with normal eyesight I shall always see the one red and the other blue. If these qualities depended wholly on my sensations, it would be impossible to explain why one object has the quality red and the other the quality blue. There must be something in the cards on which the difference in the qualities depends; or, at least, it cannot depend entirely on my sensations.

On the other hand, secondary qualities do not depend wholly on the physical object. The particular colour that an object has when it is being perceived depends in part on the sensation of the percipient and the state of the medium through which it is perceived. But it does not follow that the object contributes nothing to the colour.

[6] G. F. Stout, *Proc. Arist. Soc.*, IV, p. 151.

The object itself has certain sensible qualities; and though these sensible qualities are not identical with the sensations a percipient has in observing that object, they are very closely correlated with them. It seems probable, indeed, that the object even when not actually being perceived may have colour, though this is not visual colour. The fact that colour is perceived only by sight makes us assume that visual colour and real colour must be identical. But is it any the more necessary that that should be so than that visual extension should be identical with real extension? It is universally admitted that visual extension is not identical with real extension. What ground have we, then, for assuming that visual colour is identical with real colour? It certainly sounds strange to say that there is a real colour apart from visual colour, but, after all, that is no more remarkable than that real extension should exist apart from visual extension. And it is possible to account for the plausibility of the distinction that is made, in this respect, between primaries and secondaries in a very simple way.

Secondary qualities can be perceived by only one sense; whereas primaries can be perceived by more than one, or, at least, contributions to their perception can be made by more than one. Colours can be perceived only by sight, sounds only by hearing, flavours only by tasting, odours only by smell, and temperature only by touch. And these are all the so-called secondary qualities, five of them, each corresponding with its proper sense. On the other hand, we can become aware of primary qualities by means of more than one sense, and as the deliveries of these senses frequently prove to be incompatible, we infer that there is a real quality of the object existing independently of these variable and inconsistent sense-deliveries. This simple circumstance (that primary qualities are

perceived by more than one sense, while secondaries belong to one only) probably accounts for the origin of the supposition that there is an ultimate difference between primary and secondary qualities, but it gives no ground for believing that there *is* an ultimate difference. There are, on the whole, as good reasons for believing that secondary qualities exist as real, independent of any perception of them, as that primaries do.

All qualities seem to be alike in the possibility of existing apart from perception. Qualities that exist apart from perception are not, of course, identical with those that exist when the thing is actually being perceived. The real extension of the moon (a primary quality) is not identical with the visual extension I perceive when I look at it, nor is the real colour of the moon (a secondary quality) identical with that which I perceive when I look at it. In each case the visual presentation depends on a great many circumstances, the distance of the object, the condition of the atmosphere, and so on; and we are aware that it varies in accordance with these changing circumstances. But we assume that the real extension and the real colour of the moon are constant; and that both are independent of the variations in our perception of them.

Must we hold, then, that there is no difference at all between primary and secondary qualities? Hardly so. Prof. Stout has suggested that the real ground of the difference lies in the relation of these qualities to the interaction of material things. "The executive order of the material world can be expressed only in terms of the primary, and not in terms of the secondary properties of matter. . . . The system of uniformities of co-existence and sequence, and of quantitative equivalences and correspondences which constitutes the order of physical na-

ture in its causal aspect can be formulated only in terms of extension, motion and tension."[7]

This distinction does, no doubt, point to a real difference; but it should also be noted that there are exceptions, or, at least, there is an exception to the rule. For the temperature of objects and the properties of that temperature do enter, as elements, into the executive order of the world.[8] Heat causes iron to expand, and in this way may produce marked effects in the physical world. If the rails on the permanent way of a railway expand further than has been allowed for, a train may run off the line and be wrecked. Temperature, then, is one instance of a secondary quality which may enter into the executive order of the world. And possibly, if we knew more about the causal relations of things, we should find that all the so-called secondary qualities may enter into the executive order of the world.

Now, it is one thing to say that qualities exist independently of their relation to mind, and quite another to say that they exist independently of *all* relation. So far is the latter statement from being true that it would seem that their very existence as qualities depends on their relations. We do not have absolutely isolated things-in-themselves, each with a collection of attributes private and peculiar to itself. A body depends for all its qualities on its relations with other bodies. Its extension, for instance, to take a primary quality, depends on the relation of its 'limits' to the 'limits' of other bodies, and, indeed, the very notion of limits essentially refers to something beyond the limited object with reference to which it is limited. Again, its temperature (a secondary quality) depends on its relations to other things. The temperature of a piece of iron depends on the surround-

[7] G. F. Stout, *Proc. Arist. Soc.*, IV, p. 153.
[8] *Cf.* T. P. Nunn, *Proc. Arist. Soc.*, X, p. 217.

ing atmosphere, or on the furnace in which it is placed. And it would be possible, by an extension of the same argument, to show that *all* qualities, whether primary or secondary, depend for their very existence on the fact of relation.

That this is so would be admitted very much more readily in the case of some qualities than in the case of others. It would be generally agreed that heat and cold are constituted by relation, or depend on relation; but similar unanimity would not be displayed in attributing to relation the existence of tastes. The reason for the distinction that would be drawn by common sense between such qualities as tastes and smells on the one hand and other qualities on the other, may be readily explained. Tastes and smells have very few relations apart from their relation to their appropriate sense-organs; and therefore common sense believes either (a) that they exist wholly in the objects apart from any relation at all; or (b) that they depend for their existence wholly on their relation to our sense-organs. Now, it is quite true that tastes and smells have very few relations, and the qualitative differences between them are difficult to determine with precision. We may attribute to them a certain vague spatial localisation with reference to the objects "from which" as we say "they come," and we may compare them with one another roughly according to their intensity-differences. On the other hand, it is not possible to calculate, with any degree of exactness, the measure of their relations to other smells or tastes, much less to other types of quality. They do not appear as terms in any of the causal laws in the physical world which determine the relations of other qualities.

The indeterminateness of these qualities is due to the fewness of the relations in which they stand. The reason

why we commonly assume that their existence depends on being perceived is that their relation to the mind is the most important of their relations. But they do have relations, however rudimentary, to other things and qualities; and they are constituted by these relations, along with the cognitive relation.

If it be admitted that things and qualities are really constituted by their relations, including the relation to the mind in cognition, and cannot exist apart from relations (though they may exist apart from some of the relations into which they can enter), the problem of the internality and externality of relations largely disappears.

It involves an illegitimate abstraction to say that reality can exist apart from relation, but it is equally illegitimate to say that relations can exist apart from reality. The world does not consist of terms *plus* relations, it consists of terms in their relations, and relations as relating terms. Relations and terms are, indeed, strict correlatives, neither of which can exist in entire abstraction from the other. And to speak as if they could thus exist is to perpetrate a mischievous abstraction.[9] Relations and terms, then, exist only in their relatedness. Their relation is immediate, and it is not only misleading but unnecessary to postulate, as Prof. Stout at one time suggested that we should, a third element of "relatedness."[10] If, in addition to terms and relations, we must postulate a third factor "relatedness," there seems no reason why we should stop with this third factor. If relation and term are not in immediate connection, can a third element ever relate them? Must we not, if we do postulate "relatedness," assume also a fourth and fifth element to relate relatedness to relation on the one hand and to the original

[9] *Cf.* S. Alexander, "On Relations and in particular the Cognitive Relation," *Mind*, N. S., XXI, p. 310.

[10] *Cf.* G. F. Stout, "Alleged Self-contradictions in the Concept of Relation," *Proc. Arist. Soc.*, N. S., II.

term to be related on the other? And how can we stop at the fifth? We are involved, in fact, in the infinite regress which Mr. Bradley has argued to be characteristic of the concept of relation. That infinite regress does take place necessarily, if we make the initial assumption that term and relation are cut off from one another with a hatchet. But if we regard relation and term as being in such essential connection that the existence of either depends on the existence of the other, then the concept of relation is not open to the criticism based on the infinite regress, and seems, indeed, to be free from self-contradiction.

Things, then, depend for their reality on their relations, including the relation to the mind in cognition. The cognitive relation, it must be insisted, is only one out of the many in which things stand. Further, the cognitive relation is a complex relation, including a great deal more than mere sensory awareness. It is therefore a serious error, though a very natural one, to assume that the existence of a quality can be dependent solely on its relation to a particular sense-organ.[11] Its existence depends on the *system* of its relations, not on any particular one.

Reality, then, consists in relation. And this is true not only of physical things but also of minds. Mind, equally with matter, is constituted by the relations in which it stands. An absolutely isolated and independent mind is as much a fiction as an isolated and independent bit of matter. Now, we have seen that physical things enter into many relations apart from and in addition to the relation to a percipient mind, and that their existence

[11] Berkeley's error lay in assuming that the relation of the external object to the mind is the *only* constitutive one. On his view, any other relations into which the object may enter are, in comparison with the cognitive relation, of such slight importance that they may be ignored. In other words, Berkeley maintains that because every object we know has the relation "to be known," therefore its whole nature is constituted by that relation.

does not consist in this relation alone, but in the totality of the relations in which they can stand. And it is true also of mind that while its existence depends on relation it does not depend solely on the relation of perception. *Esse* is *percipere* is not a complete account of the existence of mind. A mind not only perceives, it also conceives, believes, doubts, supposes, judges, reflects, meditates, and the like. These activities, which are all in a wide sense forms of cognition, imply relations of the mind to certain objects, and all these relations help to constitute it. And in addition to this class of cognitive activities, the mind may also be regarded as having conative and feeling aspects. And these aspects, in their turn, are by no means simple, but consist of, or include, very complex systems of relation. The conative aspect of the mind includes all kinds of volitional and practical experience, and the feeling-aspect embraces such types of mental experience as emotions and sentiments, and some features of instinctive and impulsive behaviour. Now, these are all types of relation into which the mind can enter; and the reality of the mind, as a mind, depends on these relations. It does not depend solely upon its percipient experience, but it does depend on the immensely complex totality of experience, cognitive, conative, and affective, in which it is related to other minds and to things.

Reality comprises two correlated orders—on the one hand, a series of things supposed to be material and physical, consisting of certain non-conscious relations to other things, and of certain relations, as the experienced term, to minds; and, on the other, a series of minds, constituted by their relations, as the experiencing term, to things, and also, as either experiencing or experienced, to other minds.

Now, neither of these orders is absolutely independent of the other. Each is relative to the other, and each helps to constitute the other. The unity of the mind does not depend on its own processes, simply as psychical processes, but rather on the objective aspect of its experience. Our continuously changing experience owes its self-identity to the fact that the world of which we are aware is one and the same. The unity of the self really depends on its *Weltanschauung*. Similarly, the unity of the object, as we have already seen, depends on its relation to other objects and to the mind. The unity of both the mental and the physical order is constituted by relation and inter-relation.

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MAN IS ORGANIC TO NATURE

THE aim of this paper is to consider the meaning, and certain of the implications, of the statement that man is organic to nature, particularly in so far as that statement has significance for a theory of perception.

Not so very long ago men believed that they were created only a little lower than the angels, and they also maintained a kind of "I'm a stranger here below" attitude towards this planet and all that pertains thereto. Now all this is changed. The sciences, particularly the biological sciences, have dispelled the old legendary ideas as to man's origin, and they have also greatly modified his ideas as to his relations to the world in which he finds himself. The newer and truer view is that man is organic to nature, to the things of earth and sea and sky; that he is a product of the evolutionary process, and that the kind of creature he is, is the result of the interaction of his organism and his environment. The functions which mark man as a living organism, e. g., growth by the assimilation of food and the power to reproduce his kind, bear witness to the fact that man is a child of nature and also to his kinship with the lower forms of life. Even the grade-child knows that the processes whereby man's physical life is maintained are intimately interwoven with and dependent upon the things that constitute man's physical environment—the atmosphere in which he is immersed, the food he assimilates, the water he drinks.

The statement that man is organic to nature means further that his nervous system and his sense organs, with their distinctive functions, have been built up in the course of the process known as organic evolution; indeed, to our human way of thinking these organs with their functions constitute the most important item in that process. We believe further that man's progenitors were distinguished from all other creatures by their capacity to develop a sensory apparatus of greater range and delicacy than that possessed by any other creature, and consequently by their greater responsiveness to the vast variety of stimuli belonging to their environment.

Man's kinship with the lower animals is suggested also by his possession, in common with them, of a stock of inborn tendencies to make definite and characteristic responses to environmental stimuli. Among the lower animals, and among human beings in large measure, a sensory stimulus is primarily and chiefly a stimulus to action, not the beginning of a series of cognitive processes. The sight or smell or hearing by deer of the beast that preys upon them awakens at once an impulse to flight, the sight of a nest-full of eggs by the broody hen sets in motion the brooding activities. The perception of the exciting object calls forth the appropriate response, which is motor or emotive, rather than cognitive in character. This is true in man, as in animals, of all those kinds of behavior broadly described as instinctive.

So far, we have mentioned only those aspects of man's life which are chiefly physical in character. But man is more than a mechanism for making motor and emotive responses to environmental stimuli; he is also a perceiving, remembering, choice making, idea forming creature, and, normally, full of curiosity in respect to the things in the world about him; and it is as "natural" for man to

sense sour or sweet or red or green objects, to remember past experiences or to image possible future ones, to make comparisons, and to draw inferences as it is to shudder or cry out in pain, or to shrink from danger, to fall in love, or to become angry when crossed. In a word, those functions ordinarily called cognitive, are as "natural" as the more physical functions, and they are inherent in and form an integral part of the life of human beings; that is, they are additional illustrations of our thesis that man is organic to nature.

In the foregoing paragraphs we have indicated briefly some of the grounds for regarding man as organic to nature; e. g., that his physical life is intimately interlinked, indeed, is continuous with, the various features of his physical environment, and that in the course of his evolution from lower forms, man's life has been inextricably bound up with the larger world about him called 'nature.'

We shall now try to state briefly the significance of our thesis for a theory of perception, particularly the bearing it has upon the subject-object problem, the problem of the relation of mind to its objects, and the problem of the nature of "things." But first a paragraph on the question of the nature of the world before mind appeared.

The World before Mind

A further, and one may suppose an obvious implication of the view that man's life is incorporated in the life of the world is that man does not "make" the world in the sense of creating it out of his own mental activity. Nor again is the knowing process merely a process of discovering the world, if by "discover" is meant finding something previously unknown but previously existing with precisely those characteristics it has as known.

The world of our everyday experience, particularly the external world, is the product of the interaction of mind and the raw materials of sense; and while it is perhaps idle to speculate as to the relative importance of these two agencies in producing that world, the nature and function of each are proper subjects for scientific investigation. Of course we do not know, we can not know, what one may call "the original nature" of the raw material of the world, that is, what the world was like before mind appeared. The stories of creation, however, all seem to agree that in the beginning the earth was "without form and void." They also seem to agree that a long period of time elapsed between creation's dawn and the appearance of what we unblushingly call "rational creatures," creation's "crowning glory;" that in due course, living things appeared; then later, creatures emerged possessing the rudiments of what is called mind, and still later came man, and with his coming, a new heaven and a new earth.

Now reflection upon the general theory just crudely outlined, particularly upon the fact that "in the beginning" there was in the earth nothing of the nature of mind, has led to several important philosophical conclusions. For instance, these facts have been used as a solar plexus for subjectivism. If, it is asked, *esse* is *percipi* or *concipi,* was there no world before perceiving and thinking creatures appeared? Of course, the subjectivists might in extremity fall back upon Berkeley's answer, that prior to the advent of perceiving creatures, the world existed in the mind of God. These facts have also been used in support of a modern defense of the realistic position. For example, Professor Drake writes: "Unless realism is true, the whole stretch of cosmic history prior to the advent of minds upon the scene had

no existence, just as whatever is not now perceived or conceived by some mind has no existence. As between such a shrunken world miraculously springing into existence when the first animal minds began to function, and the complete, if but partially understood, world of realism, what sensible person can hesitate?"[1]

Next it is asked, "what sort of a world is an unknown world," and "what was the nature of the world before mind emerged?" In considering these questions, it should be observed that the question, "what is the nature of an unknown world?" is not the same as the question "what was the nature of the world before mind appeared and knowledge emerged?" The first question, "what kind of a world is an unknown world" involves a palpable contradiction and is, in the nature of the case, unanswerable, and need not detain us.[2] As to the second question, a simple figure will suggest the true answer. Suppose a boy in his wanderings finds a nestfull of strange bird eggs, and asks what kind of eggs they are, i. e., what kind of birds would hatch from them if the eggs were incubated. An older person might say, "wait till the eggs hatch and you'll find out." So the best and, in fact, the only answer to the question "what kind of world was this before mind and knowledge appeared" is obtained by observing what kind of things the world has produced. The nature of the world is revealed in the nature of the things it has brought forth during the evolutionary process.

1 *Mind and its Place in Nature,* p. 42.

2 The descriptions of such a world proffered by speculative writers, for example, Stirling's dramatic portrayal of the world "as globes whirling in darkness, blacker than the mouth of wolf, blacker than the blackest night, darkness absolute, soundless and more silent than the voids of voids—but for us, that is, but for an eye and an ear, and a soul behind them" are not very convincing. Quoted by Pringle-Pattison, *The Idea of God,* p. 121 f.

The Subject-Object Problem

The first and greatest obstacle to clear thinking in respect to the subject-object problem is the metaphysical dualism implanted in the children, particularly of our western world, along with their nursery rhymes, and nourished by every social contact from infancy to maturity. Into the texture of our strongest convictions in regard to man's relations to the things about him is woven the belief that mind and matter are two essentially different things, that they are wholly incommensurable, with nothing in common except possibly that both have temporal qualities. So it seems at times that we are irrevocably committed to the dualistic doctrine, though just what "mind" in itself is and just what "matter" is apart from mind, it is impossible to tell; but that they differ *toto coelo* seems to be believed almost universally. This explains why such a formula as "subject is object and object is subject," or "the real is the ideal" is such an offense to common sense, for common sense is dualistic through and through.

Probably no one nowadays seriously maintains the "incredibly formal and trivial" doctrine that the things which constitute the external world of objects—sun and moon and stars, rivers and trees and animals—are created by our minds. At any rate, the doctrine maintained in this paper is that the things of the external world are the product of the joint activity of the sentient organism and its environment. Or to quote a trenchant sentence from Bosanquet, which also summarizes an important feature of his philosophy—"*You* do not make the world; *it* communicates your nature to you, though in receiving this you are an active organ of the world itself."[3]

It is here maintained, on the one hand, that all things

[3] *Contemporary Philosophy*, p. 3.

declared to exist are mind infected, they are "mind-like" or nothing—at least, so far as human beings are concerned. Or, still differently stated, the nature of objects is, as we shall say later, "continuous with the nature of mind." What the world is, is revealed in the world of mind and there only. Thus, to affirm even existence of an X is to declare the continuity of its nature with the nature of mind. And, to change slightly Pringle-Pattison's thought, the progressive development of more delicate organs of apprehension just means the emergence of fresh aspects of the world. Further, the world in the process of coming to consciousness develops the only evidence it can have of its own existence; that is, the only assurance which the world has of its own existence is mind born.

We have said that all things declared to exist are mind infected; and we must add that Nature, the surrounding world, the environment, physical and social, exerts a controlling influence upon the life of the mind and its activities. If it is true that the world is "mind infected," it is in the same measure true that mind is world "contaminated," since the two, mind and world, subject and object are but two aspects of the same reality —the experienced world.

In short, our thesis—to employ Laurie's phrasing—that "sentient mind and nature are in organic community" implies that the terms "subject" and "object" are abstractions, and do not refer to independently existing things. They are, as we have said, but two aspects of the same world, the world of all of us; and they develop *pari passu*. Moreover, mental development means just fuller revelation, completer emergence of the world of reality.

Mind and its Objects

Let us turn next to a special phase of the subject-object problem, namely the question of the relation of mind to its objects, the things which we call nature or the external world.[4]

In regard to this question, we have to choose, broadly speaking, one of four answers, (1) subjectivism with its dilemma and inconsistencies in regard to the knowledge of other persons' minds and their activities, and with its constant menace of solipsism and its futilities; or (2) phenomenalism with its unknowable world of things in themselves and its impossible doctrine of transcendence; or (3) some one of the more recent developments of the realistic position, e. g., that known as "The New Realism," or that proposed by the "Critical Realists," to name only two of the most widely known recent developments of the realistic thesis; or (4) that broad, general class of answers, commonly called idealistic, i. e., that "objects are in some sense continuous with the nature of the mind."

It is not within the scope of this paper to undertake to justify the rather abrupt manner in which subjectivism and phenomenalism were characterized in the preceding paragraph; nor shall we undertake a review of the realistic position in general or of any of its special statements. It seems desirable, however, before stating the theory maintained in this paper, to indicate briefly what seem to be the chief obstacles encountered by the adherents of the leading realistic faiths. The "new realism," at least in its more rigid formulation, seems to the writer unacceptable because of the contradictions and incon-

[4] We say "nature or the external world" since it seems to be agreed on all sides that the logical and mathematical deductions are mind creations. The difficulty is chiefly as to the things of everyday life, the sun and moon and stars and trees, rivers, rocks, thunder, lightning, mountains, the beasts of the field, and other persons.

sistencies attaching to its conception of "things" as existing independently of everything else and as uniting in themselves all those multifarious discoverable features of size, shape, position, color, temperature; as containing in themselves, as Drake says, "all the infinitely varying characteristics of the perceptual data of all their real or possible knowers." Surely, as Drake observes, this description of "things" strains credulity too far, and is in itself sufficient ground, possibly, for describing this form of realism as "chaotic" and "anthropocentric."[5]

A more recent development of the realistic position is given by those thinkers who call themselves "Critical Realists." For example, in the writings of Santayana and Rogers—to mention here only two members of this important group—the issue is clearly and persuasively defined. Santayana's formulation is, "Ideal relevance consists precisely in this power to intuit an essence which we do not embody, but which may be embodied in some other suitable thing—as the essences pea-green, sphere, similarity and duality may be naturally embodied in two peas. In any case, even when the essence intuited is identical with that embodied in the object, the intuition and the embodiment remain different in existence, origin, date, place, substance, function, and duration.[6] Rogers' formulation differs slightly from Santayana's; but it has substantially the same meaning. It is, briefly, that objects embody ideal characters "in a form of existence which is not identical with their existence as thoughts of ours."[7]

Critical realism, like all other forms of realism, is encumbered by the difficult theory of external relations, difficult because it leads us headlong into the old problem

[5] Op. cit. pp. 14, 45.
[6] *Essays in Critical Realism*, p. 167 f.
[7] *English and American Philosophy Since 1800*, p. 292.

of bridging the chasm between mind and its objects, and of explaining how a mental thing can know a non-mental thing which is believed to differ *toto coelo* from its knower; and we have what Bosanquet calls "the quaint separation between what we think of and the means by which we think of it;" or, if not that, then a phenomenalism with its unknown and unknowable things in themselves. Or, stated with a slightly different emphasis, the inherent difficulty of subscribing to the theory of external relations, as basic to a solution of the knowledge problem, is in conceiving precisely what is meant by mind being "related externally" to its object, unless one becomes perverse and reads "external" to mean merely encompass or surround, and these are banal figures on any theory. But in any case it seems impossible to conceive how mind "intuits essences" or "ideal characters" unless we assume the continuity of their nature with the nature of mind.[8] But to make this assumption is to undermine the chief stone of the corner of the realistic temple.

The arguments which may be advanced in support of the fourth group of answers called, broadly, "idealistic," are, according to Bosanquet, (whose teaching is followed in the succeeding paragraphs) of two classes; (1) those which one may call "negative" and "external" and (2) those which are "positive" and go to the question of the inherent nature of the factors involved in the knowledge relation.

One of the negative arguments, namely, that arising out of the difficulty of understanding how mind can know things which are non-mental in character has been mentioned already. A closely related negative argument is

[8] Further, as Drake observes, "how can a brain process conceived in purely physical terms (after the manner of Santayana), exercise "intuitions" or 'awareness' either of essences or existences?" *Mind and its Place in Nature*, p. 67.

based upon the conviction, as stated by Russell, as follows: "I think it must be admitted as probable that the immediate objects of sense depend for their existence upon physiological conditions in ourselves, and that, for example, the coloured surfaces which we see cease to exist when we shut our eyes."[9] Commenting on this argument, Bosanquet remarks, "It is a good point on my side to say that objects of the kind in question (blues, sours, etc.) cease to be, with the minds which entertain them or even with the cessation of those minds' attention. And it seems obvious to me that this is so. But . . . . . in any case this fact would only be an external proof and not an analysis of the essence, and *prima facie* would not apply to the objects of thought."[10]

The arguments just advanced are, as was said, "negative" or "extraneous"; they do not go to the essential character of the factors involved. On the other hand, the principal positive argument for the thesis that "the characters which we ascribe to objects are continuous with the nature of mind" is based, presumably, upon an inquiry concerning the nature of mind and its objects. And this inquiry proceeds in turn from the general conclusion of a former paragraph, that subject and object are but two phases of the same thing, that we cannot draw sharp lines and say on this side is pure subject and on that, pure object. Nor can we separate mind and its objects in the perceptual process. But we can distinguish and characterize the two factors of that process. We can say that the content, the raw, uncontaminated material of perception is chaotic, inchoate. But we hasten to add that the nature of this content is such as to evoke the particular activities of mind which are present in perception. And of mind we may say that its nature is dis-

[9] *Our Knowledge of the External World*, p. 64.
[10] *Mind and its Objects*, p. 30 f.

closed, in part at least, by enumerating its activities, and we may say that the work of mind in the perceptual process is to complete the revelation, to reconstruct, to organize and unify, and to interpret the raw materials of experience. The "what" if not the "that" of perceived objects is mind given. To describe an object, say a book-cover as rectangular in shape, as wine colored, as rough, seems to be a process of enveloping it with a mental character. So also is the process of distinguishing the book from its surroundings, seeing it as a unit, and giving it a local habitation and a name. In brief, this argument is that in the perceptual process we may distinguish the "given" as content and mind as its "form."

In the further development of this line of argument, Bosanquet indicates what he calls two of its applications, as follows: (1) "No mind can make a world synthetic if that world is not synthetic in itself. But again; no world can be synthetic in itself, that is, can possess universals as a part of its own nature, if its elements have not, pervading them, the living *nexus* and endeavor towards a whole which indicates participation in the nature of minds, ... The reality of the universal is a sufficient proof that the objects of mind may be alive with its vitality."[11] (2) The second application relates to the tertiary qualities. Since it is granted that aesthetic judgments are based upon differences in the mind's affections or feelings, it seems to follow that the tertiary qualities—beauty, ugliness, sublimity and the like—are mental in their origin and nature. "A thing may be charming quite as really and truly as it is red; but its charm, according to the realism before us (Alexander's) must be a mind dependent attribute; for to be charmed is a mental act."[12] And so the break-down of every form

[11] *Mind and its Objects*, p. 35 f.
[12] *Ibid.*, p. 23.

of realism occurs in the presence of the tertiary qualities. As Bosanquet remarks, "There is no realism that can be completely solid and thorough, i. e., can sweep all characters of things, which are on the same level of objectivity, into the mass of non-mental reality."[13]

To summarize: it has been maintained in the foregoing pages that the doctrine that man is organic to nature involves, *inter alia,* the following three doctrines: (1) that man does not make the world in the sense of creating it out of his own mental activity, but that, on the contrary, the "things" of the external world are the product of the joint activity of the sentient organism and its environment; (2) that the terms "subject" and "object" are abstractions and do not refer to independently existing things; they are but two aspects of the same world; (3) that in respect to what we have called the four principal theories of the relation of mind to its objects—broadly characterized as subjectivism, phenomenalism, realism, idealism,—our thesis that man and nature are in organic community seems to involve some such theory as that formulated by Bosanquet, perhaps most explicitly in his later writings.

[13] *Ibid.,* p. 22.

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THE PREDICTION THEORY OF TRUTH

IF some kind of a distinction between thought and things be admitted, whether the distinction be metaphysical or functional, there are three possible areas in which the search for the meaning of the term truth may be carried on: the realm of ideas, the non-ideational realm, or some relation of the ideational and non-ideational realms. Corresponding to the areas of search, three primary types of truth theory have arisen: the rationalistic-coherence theory, the existential theory, and the correspondence theory.

With the avalanche of present day realisms and empirical analyses of thought, the rationalistic-coherence theories of truth, which regard truth as an inherent quality of single or systematically related ideas, find few earnest champions. Whether we accept Descartes'[1] identification of truth with simple, clear, and distinct ideas, error being due to the outrunning of the understanding by the will, or Spinoza's[2] belief that the understanding untainted by the imagination gives truth, or Royce's[3] claim that a true idea is one which is affirmed when its denial is attempted, four major difficulties seem to appear: either we tend to confuse truth with formal consistency, or we have to confess that as finite human

[1] *Meditations,* IV.

[2] *Treatise on the Correction of the Understanding.*

[3] "The Problem of Truth in the Light of Recent Discussion," in *William James and Other Essays,* pp. 237, 244.

beings truth always eludes us, or we have to admit that no clear and precise test of truth is available, or we must content ourselves with a few simple absolute truths—really definitions in the last analysis—which are so insignificant that only a philosopher could enthuse over them.

One possible way out of these difficulties is to search for truth beyond the realm of ideas. Bradley,[4] baffled in the above quest, finds truth in a single coherent and comprehensive whole which in its quality of sentience is more than thought. For Hegel[5] truth is God, the Whole, the eternally Real. The mystics search for 'truth' is often a longing to escape from the difficulties of thought to some consummative supra-intellectual experience. For the earlier Russell truth was a function of propositions in themselves non-mental. For the new realists[6] truth is a function of non-mental objects rather than a function of ideas or judgments. But the attempt to identify truth with some form of existence as such is open to two main objections. In the first place, as the development of new realism has demonstrated, some kind of dualism is necessary to explain error; and in the second place, the intellectual connotation of truth renders any mere dualism of existences incapable of explaining error adequately. Truth or error has no meaning when completely severed from the reflective process.

We are then driven to formulate a correspondence theory of truth if we do not wish to be arbitrary in our definition, or unbecomingly modest in our pretensions. An idea is true if in some sense or other it corresponds to

4 *Truth and Reality*, pp. 113, 114 note, 223. Bradley's vacillation between the two types of theory leads him to the conclusion that truth is really unattainable, for to become truth it must become reality, but this it could not do without losing its character of truth. *Ibid.*, pp. 343, 344. He adds graciously, "how in detail all this is possible, cannot be understood."

5 *Logic*, Wallace translation, pp. 3, 32, 387.

6 *The New Realism*, pp. 256, 257.

something not an idea. Such a statement, however, only raises the central difficulty itself—the nature of correspondence. I take it that any form of the Humean copy theory of ideas as representative images is inadequate and need not be further discussed. Nor does it seem profitable to find truth, with Eaton and Russell, in "the identity of form in propositions (symbolic groups) and perceived objects,[7]" for structure varies with the language chosen, while truth is independent of the structure of the particular symbolic language. Correspondence, as essential to truth, is more than the purely formal identity of structure between the order of symbols and the order of existences, as we shall see in a later consideration of Russell's position. If with the critical realist we regard truth as "the identity of an essence with the actual character of the reality referred to,"[8] and then claim that this reality itself does not directly appear in experience, we have not merely introduced new difficulties in the ambiguous concept of essence, but have rendered any direct test of truth impossible. It is interesting to note that both Rogers[9] and Sellars[9] who hold this theory as to the nature of truth, admit that there is no final test for correspondence, and fall back upon coherence as the main test for truth. But to say the least, it is difficult to see how correspondence can be tested by coherence, how an extra-experiential reference can be tested in intra-experiential terms. The very nature of the case would seem to render such a claim unprovable.

The pragmatists approach the concept of correspondence from the general relation of thought to behavior.[10] If the thought process is a means of adjustment employed

[7] Eaton, *Symbolism and Truth*, p. 177.

[8] Rogers, "The Problem of Error," in *Essays in Critical Realism*, p. 117.

[9] Rogers' statements may be found on pages 11 and 68 of his volume, *What is Truth?* Sellars',in *Evolutionary Naturalism*, p. 56.

[10] Dewey, *Essays in Experimental Logic*, p. 24.

by an organism whose behavior has been interrupted, so the story goes, where *can* truth be found except in the success that ideas have in solving behavior problems? Follow this lead that truth is a function of ideas working satisfactorily in the solution of behavior problems they are intending to solve, and you will find, we are told, that the nature of truth and the test of truth are identical.[11] Truth is a relation of experienced factors, and its nature can only be found by discovering what it is experienced as.[12] It is believed that the pragmatist has pointed out the right road, but has become unnecessarily confused in his wanderings, particularly as concerns the relation of truth to success in behavior.

It is, of course, an old story that James unwittingly let loose the notion that what gives us personal satisfaction and proves useful is as such true. This doctrine, realists smiled, is itself too good to be true, and even invoked the Nietzschean sentiment[13] that "a strong faith, which produces happiness, causes suspicion of the object of that faith, it does not establish its 'truth,' it does establish a certain probability of its—illusion." James never intended the extremes of the popular interpretation, but in stressing satisfactory working as a test for truth, he vacillated between an emphasis on personal satisfaction and on a satisfaction of the demands of the objective situation.[14] In very few passages did he

[11] *Ibid.*, pp. 240, 241. *Influence of Darwin*, pp. 139, 140.

[12] Dewey, *Influence of Darwin*, pp. 95, 239.

[13] *Genealogy of Morals*, part 3, sec. 24. In *Beyond Good and Evil*, section 39, he states that a theory could be true even though it were in the highest degree injurious. Nietzsche, however, often goes to the other extreme, as in section 534 of *The Will to Power*, where he states that "the criterion of truth lies in the enhancement of the feeling of power."

[14] For the emphasis on personal satisfaction see the *Essays in Radical Empiricism*, p. 249, while p. 254 stresses the satisfaction of the demands of the objective situation. Pages 247, 253, 260 refer to truth as the satisfactory working of ideas. Perry's claim that James' doctrine covered both senses of satisfaction is found on p. 363 of the *Present Philosophical Tendencies*, and Dewey makes a similar claim on p. 324 of the *Essays in Experimental Logic*.

adequately combine both senses of this ambiguous doctrine.

Dewey at this point stresses the view that satisfactory working depends upon the entire situation,[15] and regards personal satisfaction as relevant only when it is part of the intent of the idea.[16] Now, although the deeper position that nothing not part of the intent of the idea is relevant to the truth or falsity of the idea is undoubtedly Dewey's underlying contention,[17] it must be confessed, I believe, that there are many passages in his works where the relation of truth to successful behavior remains ambiguous, and some passages at least where truth comes perilously near to becoming a species of the useful.[18] Thus, even though the position to be now developed is indicated by Dewey, it may be well to clearly generalize the doctrine that his maturest thought implies. It is the present contention that by approaching the problem of truth through the concept of prediction an unambiguous pragmatic account is attained which is not embarrassed by the realistic criticisms directed against the looser formulations, and which is capable of handling the difficult problem of the relation of truth to behavior.

[15] *Influence of Darwin*, pp. 155, 166.

[16] *Essays in Experimental Logic*, p. 322, note.

[17] *Influence of Darwin*, p. 95, note: "It is the failure to grasp the coupling, of truth of meaning with a *specific* promise, undertaking, or intention expressed by a thing which underlies, so far as I can see, the criticisms passed upon the experimental or pragmatic view of the truth."

[18] I refer to such statements as the definition of correspondence as the agreement between a plan and the fulfilment of the plan when acted upon (*Essays*, etc., p. 240), and the identification of the true idea with the idea which solves the problem it intends to solve (*Influence of Darwin*, p. 150). In this volume, pp. 133, 139, 158, 160, 166, notice his use of correspondence for the "harmonious interlocking" of the consequences which flow from the problematic situation and those which result from the plan. On p. 143 he identifies the "effective working of an idea and its truth." On p. 130, note, he states that "truth is the adequate fulfilment of the function of intelligence."

II

A prediction is a claim made by symbols as to what would be found in a certain specific area of experience. Psychologically, the ability to make predictions requires the operation of symbols.[19] By the combination of symbols, claims can be made as to the relation of the referents of the symbols, so that although prediction is based upon past experience, it now becomes possible to claim that the experience meant by the symbols would or would not be actually obtained under certain specified conditions.

Prediction, then, is a function of symbols, and truth may be regarded as a function of prediction. When the predicted experience is obtained as predicted, the prediction is said to be true. A truth is a verified prediction, and 'truth' is the general name for the specific truths. Since predictions are components of the reflective process, it follows that there is no truth which does not issue from a reflective process. The essence of correspondence, then, is to be found in the relation between a prediction and the obtaining or the failure to obtain the experience predicted. If the experience meant is the experience obtained, then the prediction is true, and if the experience obtained is not the experience meant, the prediction is false. The prediction as such is not true, but becomes true when what it claims will be experienced is experienced as it was claimed it would be.[20]

19 A development of the nature of the symbol will be found in an article, "The Concept of the Symbol," *Journal of Philosophy*, XXIV (1927), pp. 253-262, 281-291.

20 Although greatly influenced by such realistic criticisms as G. E. Moore gave in his review of James' *Pragmatism*, and found in his *Philosophical Studies*, the present theory is most heavily indebted to pragmatic writings. The generalization of the main doctrine from Dewey's treatment of satisfaction has already been mentioned. A. W. Moore has strongly insisted that "satisfactory working" must mean the specific working of ideas "in the way they set out to work" (*Pragmatism and Its Critics*, p. 87). James in many places practically puts his theory of truth in terms of verified predictions, as on pp. 40, 86, and 236 of *The Meaning of Truth*. An emphasis on the specific intent of the idea in

The same fulfilling experience changes a prediction into a truth, and tests the truth claim of the original prediction, so that the nature of truth and the test for truth are, as the pragmatist maintains, ultimately identical. To retort that an idea is either true or false before it is actually tested is merely to imagine an instantaneous or collapsed verification attributed to some actual or ideal observer. But to claim that the verification could have taken place sooner than it did in actuality is to make a new prediction and not to render the first prediction true of false. There is no important difference as regards truth, between going through a process in which truth emerges, and in imagining the process to have already been gone through. To remove all possibility of verification is to remove all meaning from the term truth; to transfer this possibility to an ideal observer is to make another prediction, but not to change the status of the former prediction.

The essential contrast is not, as the realist maintains, between the nature and the test for truth, but between those cases where the verification is fairly direct and easy to obtain, and those cases where the verification is temporally distant or difficult. Because many predictions

truth claims is found in Royce's *The World and the Individual*, Lecture 7; in parts II and III of Boodin's *Truth and Reality;* and in Ducasse's article, "A Liberalistic View of Truth," *Philosophical Review*, XXXIV, pp. 580-598. This is not to say, of course, that the above thinkers need agree with the present account.

Dr. Karl Schmidt has called my attention to the fact that Hertz's theory of truth, hinted at in the Introduction to *The Principles of Mechanics*, is a form of prediction theory. According to Hertz "We form for ourselves images or symbols of external objects; and the form which we give them is such that the necessary consequents of the images in thought are always the necessary consequents in nature of the things pictured" (*ibid.*, p. 1). Only in this sense, he maintains, do thoughts have to correspond with things. This not merely suggests the nature of truth, but it indicates the principle which determines that the conclusions drawn from a symbol system are not merely consistent with the system, but are also true. I hope to return to this aspect of Hertz's thought at a later time.

remain hypotheses or become truths only after great difficulty, does not mean that those specific predictions were true all the time, but only that for a more favorably located real or imaginary observer, the test, and hence the truth, would have been attained sooner. Thus the prediction is made that Mars is inhabited. This means that to an observer who could directly observe the surface of Mars, and who understood the symbols in the same way that we do, he would find on Mars beings that would be called 'alive.' From the standpoint of an instantaneous verification of a postulated ideal observer, all human truth seems woefully behind time. But such an observer is only an ideal, and concrete specific predictions do involve a time element. To abstract from this is not to separate the nature of truth from its test, but to set a premium upon ideal instantaneous verifications. In any ordinary use of the term, a recognition of this true state of affairs is certainly 'realistic.'

Provided that the concept of prediction is not limited to the future, in spite of the etymological validity of such limitation, no particular difficulty need be encountered in regard to statements about the past. Such statements imply that under certain conditions as to space and time the predicted experience was or would have been obtained.[21] Where the predicted experience is not available to the present maker of the prediction, it is impossible to pass entirely beyond a hypothetical element, but by means of indirect evidence we endeavor to reconstruct the experience in question, and in many cases we reach a practical certainty that the predicted experience was obtained or could have been obtained by a suitably located contemporary observer similar in nature to ourselves, and sharing our meanings. Claims can be made about the

[21] *Cf.* James on "potential" truth, *The Meaning of Truth*, p. 293 ff.

past as well as the present and the future. Although in statements about the past the event precedes the claim, and although in these cases the verification is always indirect and hypothetical, the truth relation remains a relation between a predicted experience and the occurrence or non-occurrence of the experience as predicted.

III

This section will deal briefly with three further problems connected with the nature of truth: the relative versus the absolute status of truth, the relation of truth to consistency, and the relation of belief to truth.

It follows from the above account of truth, that truth is relative in at least two ways. Since truth is dependent upon meaning, the same words would give rise to different predictions for different claimants if the words did not have the same meaning. It is for this reason that precision of meaning precedes agreement as to the truth or falsity of predictions, and that where the meaning is ambiguous, the truth status is correspondingly ambiguous. The question as to whether animals have 'minds,' much debated in present day thought, obviously depends upon the meaning of the term mind. Under certain meanings of the term it is true that animals have minds, and under other meanings, it is false that animals have minds.

The failure to note that correspondence is between the experience meant and the experience obtained, and the insistence that truth involves an identity of structure between propositions and facts, is the source of Bertrand Russell's ambiguous position in regard to truth.[22] Russell states clearly the position that has here been presented. As he says, "One of the plainest cases of verification,

[22] References are to his volume, *The Analysis of Mind.*

perhaps ultimately the only case, consists in the happening of something expected" (p. 269). But under the influence of his more general identity of structure doctrine, he finds a peculiar difficulty in the prediction theory. He states the theory in this fashion: "When an image accompanied by an expectation-belief is thus succeeded by a sensation which is the 'meaning' of the image, we say that the expectation-belief has been verified." (*ibid.*). So stated, difficulties arise. "How do we know that the sensation resembles the previous image? Does the image persist in the presence of the sensation, so that we can compare the two? And even if *some* image does persist, how do we know that it is the previous image unchanged?" (p. 270). Once having stated the theory in this Humean representative fashion, his own position wavers. Thus he switches to this account of verification: "We have first an expectation, then a sensation with the feeling of expectedness related to memory of the expectation." (*ibid.*). But just how a feeling related to memory gives truth even Russell's diabolical cleverness is incompetent to explain. Then in defining truth he introduces the vague notion of true propositions pointing toward their objective, and false ones pointing away from it (p. 272). An image-proposition of a window to the left of a door is true if both in the image and the perceived situation the window is to the left of the door. He admits that this simple correspondence of structure is not obtained in certain verbal propositions, particularly in negative propositions. (p. 277). But in spite of this admission, and without reasoned justification, Russell continues to believe that the general theory of truth as identity of structure between proposition and objective

is valid. This conclusion may be seriously questioned.[23] As we have seen, truth is neither a representational or structural correspondence between two sets of existences, but a correspondence between a predicted and an obtained experience. It is the presence of symbols with the same meaning in the predicted and the actual experience that gives the bridge between the two situations and which determines whether what is found is what the symbols claimed would be found.

Since truth is dependent upon the experience obtained, there is a second sense in which truth is relative. In cases where the final experience is partly or entirely dependent upon the observer, even though the meaning be the same, a prediction may be true for some observers and false for others. Two observers, to take a simple example, may predict that a certain paper is colored yellow, but the testing experience will vary with the color of the glasses worn, even if the color meant be the same. It is for this reason that science, as precise thought, specifies the so-called normal conditions under which the truth claim is to be tested.

Turning to the second topic, we shall for the present only insist that truth must be sharply distinguished from consistency. A consistent set of symbols is any set such that the conclusions can be derived from the premises by means of specified operations. Such systems, constituting pure mathematics and formal logic, are as such, that is, independent of predictions based upon them, neither true nor false, but only consistent or inconsistent. (Predictions that specific systems are consistent or inconsistent are, of course, true or false.) Arguments

[23] More detailed criticisms of Russell's thought may be found in Chapter II of Joachim's *The Nature of Truth*, and pp. 150 to 159 of Eaton's *Symbolism and Truth*. Both the earlier and the later phases of Russell's theory of truth are criticized in Chapter V of Reid's *Knowledge and Truth*.

may be consistent, but the conclusions untrue, and conclusions inconsistent with certain premises may yet be true. Truth does not refer to the internal relations of symbols, but to symbols functioning in predictions.[24]

The difficulties concerning the relation of truth to belief arise from a duality of meaning of the term, 'belief' designating both an intellectual act and a psychological feeling of conviction. Russell defines belief as "that way of being conscious which may be either true or false,"[25] and yet agrees with James that belief is a kind of feeling.[26] According to the first usage truth is a function of belief. But belief so used is identical with what we have called a prediction, and it is doubtful if Russell has put his finger on the essence of belief considered as an intellectual act. Strictly speaking, a belief is a secondary attitude to a prediction—a prediction that

[24] A confusion of truth and consistency is well illustrated by a quotation from J. B. Baillie, found on pp. 39 and 40 of Muirhead's *Contemporary British Philosophy,* Vol I: "Those scientists who aim at logically exact conceptual connection do not suppose that their theories are at the mercy of what, for them, is looked upon as an inferior level of experience—the experience of the senses; . . . If their theories are logically consistent and their conceptual scheme coherent, they are satisfied; they have all the reality and, they may even say, all the 'truth' they want . . . it seems rather naïve to suppose that the logical validity of the connected system of mathematical concepts constituting the mathematical theory of relativity can possibly be decided and its fate determined by the aid of the somewhat trumpery devices of telescope and photographic plate." We would add that, though the consistency cannot be so determined, the truth must. Note Einstein's statement (*Relativity,* Eng. trans. p. 159): "If the displacement of spectral lines towards the red by the gravitational potential does not exist, then the general theory of relativity will be untenable." On p. 2 he says, "The concept 'true' does not tally with the assertions of pure geometry, because by the word 'true' we are eventually in the habit of designating always the correspondence with a 'real' object; geometry, however, is not concerned with the relation of the ideas involved in it to objects of experience, but only with the logical connection of these ideas among themselves."

[25] *The Analysis of Mind,* p. 13.

[26] *Ibid.,* p. 252.

another prediction is true or false.[27] To believe that Aristotle died in 322 B. C. is to claim that the proposition 'Aristotle died in 322 B. C.' is true, or that it is highly probable that it is true (since belief need not require entire conviction). So stated, it is clear that with an exception to be mentioned, the truth or falsity of the primary prediction is independent of the belief, but the truth status of the belief is dependent upon the truth status of the primary proposition. The feeling of conviction is, as a feeling, neither true nor false, but in some cases the sense of conviction may act as the stimulus for action which generates or makes actual the completing experience. Although in these cases the holding of a belief is a causal condition of the attainment of truth, truth is still dependent upon the completing experience and not upon the previous belief that that experience could be obtained. Truth, then, is independent of the James-Clifford controversy as to the moral right to believe in certain cases upon insufficient evidence.

IV

In closing we may well turn to the relation of truth to conduct. On the present theory, even though the general instrumentalistic doctrine be accepted, it does not follow that in the reflective process the term truth stands solely for those ideas which 'work' in successfully terminating, when acted upon, the difficulties in behavior which initiated the reflective process. Success in behavior is relevant to the truth of an idea only in so far as such success is part of the prediction. In judgments

[27] Eaton, *op. cit.*, p. 179, admits the secondary status of belief, but by regarding all judgments as beliefs is led to the view that the "ultimate evidence of truth is the compulsion of a belief," and to the claim that it is impossible to break the chain of beliefs. (p. 190.)

of practice the effect upon behavior is part of the prediction and so is essential to the truth claim, but in cases where the effect upon behavior is not embodied in the prediction, such effects are irrelevant to the question of truth. So that even if all predictions occur in a wider problematic situation which reflection is endeavoring to solve, the meaning of truth need not be stated in terms of usefulness in behavior. Predictions that have been fulfilled or that will be fulfilled when acted upon are better guides for behavior than those which turn out to be false, since the former allow the organism to prepare in advance for that which is yet to come, but satisfactory adjustment is not a general criterion for the nature and test of truth.

For Dewey pragmatism is the doctrine that all judgments are judgments of practice, and all ideas are plans of action.[28] At first sight, at any rate, the so-called judgments of fact or description do not always reduce to explicit judgments of practice, and to say as Dewey does that only the *relevant* judgments of description are used in a problematic situation, does not destroy the possibility that the irrelevant descriptions were found to be true or false even though useless for the purpose in hand. To imply as Moore does[29] that if judgments are not judgments of practice they are not judgments at all, would not prevent a critic from replying that if judgments be so defined, there are still statements or predictions which while not judgments are still true or false. Even if the reflective process is always a plan of action, need each component idea be a plan of action? May not the selection of certain true descriptions be part of the process of building up a plan of action? Whatever their

28 *Essays in Experimental Logic*, pp. 347-349.
29 *Pragmatism and Its Critics*, pp. 124, 125.

setting, many predictions make no explicit reference to results upon behavior.

It is necessary to distinguish between those predictions which in themselves make a prediction as to behavior or to results upon behavior, and those which involve behavior only as a means of bringing about the predicted experience. We can discriminate between such statements as 'if I believe and act upon this idea my behavior problem will be solved,' and 'if I perform such and such an action, a certain experience will result.'[30] In the latter case, doing a certain thing is required to get the completing experience, but the good or bad effects upon behavior are not relevant to the question of the truth or falsity of the prediction.

Even if all predictions were judgments of practice, it would still be possible to predict truly that certain ideas would be useless or injurious even if the ideas be true, or that certain ideas would be useful although untrue. If 'works' means only 'specific working in and for behavior problems' an idea may work in the way it sets out to work and yet just as well be false as true or harmful as well as useful.

The more inclusive theory of truth which makes all judgments predictions of what is to be expected under

[30] The above distinction can be illustrated by pragmatic statements. James, in the article on Pragmatism in Baldwin's *Dictionary of Philosophy*, makes meaning depend upon "practical consequences, consequences *either* in the shape of conduct to be recommended, *or in that of experiences to be expected*, if the conception be true." (Italics mine.) He adds, "which consequences would be different if it were untrue." It would be better to say," which conception would be untrue if the consequences were different from those expected." Dewey's statement (*Influence of Darwin*, p. 107) that "The thing that means another by means of an intervening operation either succeeds or fails in accomplishing the operation indicated, while this operation either gives or fails to give the object meant. Hence the truth or falsity of the original cognitional object," would illustrate the same distinction more sharply if the word "while" was changed to the word "or," for in specific cases these two predictions may be distinct. It is only where both are made that both are involved in truth.

specific conditions, holds both for expected experiences and for expected results on behavior. Prediction is a more essential category for discussions of truth than the categories of 'usefulness' or 'satisfactory working.' On the present theory nothing not predicted is relevant to the truth or falsity of the prediction.

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ON THE FORMATION OF CONSTRUCTS

SCIENCE has viewed philosophy with varying degrees of complacency. When one recalls that it was out of a general *odium philosophicum* that science was born, he is not surprised to find that there has been in the history of thought an essential conflict between the two spheres. Philosophy has looked with antagonism upon anything partaking of the precision and exactness of science; science has guarded itself with care, lest its methods become speculative and thereby exposed to philosophical contamination. But recent developments in both philosophy and science have to a certain degree lessened the intensity of the combat. From the points of view of method and subject-matter, the two spheres seem to be merging. It has been reasonable to expect that in the philosophy of science the lion and the lamb will at last lie down in peace together. Consequently it is somewhat disconcerting to find that many scientists are viewing the philosophy of science with a growing antagonism. The millenium has evidently not yet arrived.

But one is not compelled to search far in attempting to locate the cause of this renewed hostility. Essentially there is no conflict. The scientists are not objecting to the philosophy of science *per se,* but rather to certain aberrational tendencies which have arisen within this sphere. One of these, in particular, has furnished the occasion for

an intense feeling of hostility. The philosophers of science have not always been true to their subject-matter. They have built elaborate theories in an attempt to explain the intricacies of the scientific method; they have criticized the assumptions and postulates upon which it is based; they have questioned the validity of the resulting knowledge—only to find that they have not been talking about science at all, but a pseudo-science with which the scientist himself is totally unfamiliar. It is not surprising that the scientist should resent this imposture. Casting bricks at a straw man is a harmless diversion only so long as the man is clearly recognized to be straw.

It is not reasonable to suppose that this faithlessness to science has been deliberate. The motives seem to lie, rather, in certain unconscious factors, *viz.* the desire to derive one's subject-matter from the easiest possible source, the desire to fit the scientific methodology into a preconceived epistemological theory, and the desire to avoid unnecessary complication. The first of these motives results in most cases in a plain ignorance as to what the scientific method actually is. Obviously one cannot learn what science is through hear-say, opinion and unscientific books about science. One must go to the laboratory. This substitution of indirect means for the immediacy of direct contact with science, results not in the philosophy of science but in the philosophy of what philosophers think science is. The second of these motives operates frequently only at the expense of rather extensive transformations on the part of the scientific method. This is particularly true if the preconceived theory of knowledge was constructed without regard for its *general* adequacy as a description of the knowing process. The outcome is not the philosophy of science but the philosophy of what philosophers wish science were. The third motive is

the expression of a desire to avoid the difficulties which inevitably arise in connection with a complete analysis of the scientific knowing process. This is often a practical matter and not to be wholly condemned. But in this case, as in many others, the partial truth becames a rather serious error. The result in this case is not the philosophy of science but the traditional elementary books on scientific method.

In particular this misrepresentation of the scientific method has resulted in a tiresome re-hashing of old problems and a general lack of progress in the analysis of the knowing process. Writers in the philosophy of science are content to discuss the time-worn topics of classification, analogy, hypothesis, Mill's methods, probability and the rest, with little more novelty than a rearrangement of topics or a change of emphasis. And when these are discussed in the traditional fashion there is no room for anything else. The consequence is that the really significant problems—problems whose consideration would perhaps throw a new light on these topics and reveal their essential unity—are passed by. Science is being falsified for want of a proper perspective. The philosophy of science needs at this time more than anything else a fresh and impartial approach to its subject-matter.

It is not the task of this paper to suggest what this new approach should be. Our interest is, rather, in discussing one of the specific problems of scientific method which has been quite generally neglected in previous considerations. It is the problem of the nature and status in science of what have been variously called "constructs," "conventions," or "fictions." One has only to glance at science to realize the importance of the part played by these notions. Take away from physics, for example, the perfect lever, the perfect gas, the perfect vacuum, fric-

tionless motion, the particle, the ether, the electron, the atom, and a hundred other such notions, and see what remains. Or consider what geometry would be without its points, lines, surfaces, angles and the rest. Or try to estimate the content of the social sciences without the isolated individual, the perfect state, the "economic" city, and the egoistic man. To take away such fictional ideas from science would be to destroy science itself, so essentially is the scientific method centered about them. Their function is variable, depending upon the stage of development of the science in which they occur. In the more definitely experimental sciences they appear largely as isolated concepts of explanation; in the more highly developed sciences they are concatenated and inter-related into laws; in the deductive sciences they have become unified into a harmonious system. Whatever be their relations or their functions, they are unquestionably present, and a philosophy of science which totally neglects them or even relegates them to a place of secondary importance is inadequately representing its subject-matter.

All constructs are, of course, concepts, and should be discussed from this point of view. Had the problem of the nature and status of the concept as an element of knowledge received more consideration, it is conceivable that the construct would not have been so generally neglected. With regard to the concept itself, there seem to be at least three very important problems. (1) What is a concept? This is largely a psychological problem since every concept is some sort of psychical event. But there is the additional problem as to the nature of the meaning of the concept. This brings in all of the logical and metaphysical considerations associated with extension and intension. (2) How are concepts derived from experience? This is a question of fundamental theory of knowledge.

It attempts to determine whether every concept is empirically based, what non-empirical elements enter into the content of any concept, and how these non-empirical elements may be fused with the empirical to give "novel" ideas. (3) How does a concept previously derived from experience serve to "explain" that experience? Here we have all the problems associated with scientific explanation: the difference between explanation and description, teleology and mechanism, in what sense a cause explains, positivism, *etc.*

It is with the second of these problems that we shall be concerned in what follows. Obviously the three problems are distinctly inter-related. One derives concepts with a view to their future explanatory value, and the explanatory value is dependent upon the manner of derivation. And the nature of the concept itself determines both considerations. Hence our discussion must in the nature of the case be partial.

All concepts are generalizations and all generalization implies abstraction. But the nature of this abstractive process has not always been properly understood. Abstraction may take place in two ways, both of which are involved in the act of generalization, and both of which, therefore, contribute to the content of the resulting concept. In the first place there is abstraction of the common quality from the differing particulars; we extract generic resemblance from the specific differences. Thus we neglect the ways in which red, blue and green differ from one another, and consider only the fact of color in which they agree. Color is the unity by means of which we grasp a multiplicity. But there is abstraction of another sort. This is a matter of selection and is dependent upon the interest of the individual. It arises from the fact that resemblance is usually of a complex sort and in-

volves a plurality of simpler qualities. Hence we are presented with a group of associated resemblances, and may select those which are particularly significant for our problem. Those which are abstracted from the total complex become part of the content of the concept, and those which are neglected are excluded from this content. This gives rise to the distinction between essential and unessential attributes, and creates all of the problems of natural and artificial classification.

In view of the nature of these abstractive processes, it is pertinent to ask at this point whether a concept gives us an adequate portrayal of the events from which it was derived. Isn't it true that the most "descriptive" of concepts has already taken on certain fictional aspects and is no longer entirely appropriate as a picture of the world? Recalling the first of the abstractive processes, we are inclined to answer this question in the affirmative. For the specific differences are entirely lost in the abstractive process, and there is nothing in the content of the concept except the generic resemblance. Thus the concept fails to mirror completely the unique aspects of reality; events in their particularity can never be grasped by thought. With the purely *sui generis* science can never be concerned. But the second of the abstractive processes convinces us still more firmly of the essential inadequacy of the concept. For here the concept becomes artificial by limitations, neglect, exclusion. It is inappropriate because partial. The attempt to include all of the resemblances results in failure, for one can never be sure that he has all of the resemblances. Hence a concept which aims to portray accurately and completely the events from which it was derived, must in the nature of the case be indefinite. There will be a certain core of essential similarities, but radiating out from this will be concentric spheres

designating less and less essential resemblances, until the limits of the conceptual content fade into vagueness and indistinctness. From this point of view, a concept is adequate just in so far as its boundaries are elastic. But a concept must be precise. Hence artificial limits are set up, beyond which the meaning of the concept does not extend. This involves the introduction of a fictional element into the content of the concept, for the neglected resemblances are real and should be included in a complete description. The concepts designating complex qualities, *e. g.* the notion of "thing," involve a relatively low degree of abstraction, and are therefore the nearest approaches to truly descriptive concepts. Sciences which deal with "things" are not commonly called abstract sciences. On the other hand the concepts which designate simple qualities, *e. g.* length, position, weight, involve a high degree of abstraction, and the sciences which deal with them are properly named abstract sciences.

No concept, therefore, is a perfect symbol, for the content of the symbol is less than the content of that which is symbolized. Certain authors, notably Vaihinger, have taken cognizance of this fact and have called all concepts fictions or constructs. While granting the essential adequacy of the characterization, we must also recall that here the fictional activity of the mind has only begun to operate. It is when the concept has become precise by limitation that the way is open for the addition of content which makes the true fiction. Many of the significant scientific concepts are fictional not because of what they neglect, but because of what they add to experience either in the junction of qualities not found in experience or in the extension of qualities beyond their quantitative manifestation in experience. A fiction, then, is any concept which has to a relatively high degree lost touch with re-

ality. More precisely, a construct or fiction might be defined as any concept whose content is determined to a greater, rather than to a lesser, degree by the selective and creative activity of the mind, and whose value as an element of knowledge is to be measured not by the accuracy of its correspondence with reality, but in terms of its capacity to explain.

It is interesting to attempt a classification of constructs with a view to showing the outstanding types, how they are built up, and how they progressively lose their contact with the events from which they were derived. One must, of course, follow Vaihinger largely in this attempt. But Vaihinger has admittedly given us rather a list than a classification, and some of his distinctions, *e. g.* that between semi-fictions and real fictions, seem to break down upon analysis. The following is a suggested grouping of constructs. It must be remembered that the classes are not exclusive, nor does the classification make any claim to exhaustiveness.

A. *Simple Isolational Construct.* This is the class referred to above. It is one of the commonest though not one of the most important types of fiction. Whenever a single aspect of a gross resemblance is separated from the other aspects and held up for consideration, we have a construct of this sort. It is characterized by definiteness and limitation of content; the definiteness is achieved through the limitation. It is employed for the purpose of pointing out an essential quality; one knows precisely what it means because its reference is direct. Abstraction is here at a maximum. Examples are to be found in the main concepts of the sciences: length, shape, weight, position in space and in time, impenetrability, elasticity, *etc.* The notion of an isolated system, which is so important for physics, is an instance of this type.

B. *Associational or Combinatory Construct.* This type arises in an attempt to increase the content of the isolational construct by the more or less arbitrary addition of qualities not usually associated with the given quality in experience. The concept is thus taking on a greater degree of complexity, and the content of the concept is now determined only by the inventiveness of the human mind. Concepts in this stage have become very flexible, and have lost more than ever their contact with reality. There are three sub-types.

B1. *Negative Associational Construct.* Here the attempt is made to make definite that which was neglected by abstraction in the simple isolational construct. The isolational fiction was clear as to what it included, but it was vague as to what it excluded. In the negative associational construct the qualities which were neglected by abstraction are negated and made part of the content of the newly formed concept. A concept of this kind is complex, containing as it does the original abstracted quality, together with the negative of the quality or qualities neglected. Here we have frictionless motion, non-elastic and weightless lever, length without breadth and thickness, point without size, disembodied spirit, immortal man, *etc.* Constructs upon this stage are beginning to reveal a semblance of internal inconsistency.

B2. *Positive Associational Construct.* At this stage the originally isolated quality has taken on any positive associate whatsoever, subject only to the condition that the two qualities are not associated in experience (in which case we should have nothing but a complex associational construct). It is, of course, impossible to draw a sharp line between this type and type B1, for the distinction between positive and negative is purely relative. At this stage the internal inconsistency becomes slightly more

marked. Here occur the story-book fictions such as the centaur, the golden mountain, mermaids, *etc.*, and the more definitely scientific constructs such as the ether (elastic solid and perfect fluid), the electron (electrical charge possessing weight), and *actio in distans.*

B3. *Contradictory Associational Construct.* The contradiction which was distinguishable in the first type and became more marked in the second, has here reached its culmination. The incompatability at this point is undisguised, and the construct ceases to have any further explanatory value. This is the stage of round-squares, black-white things, *etc.* The developing fictional activity has here brought itself to an *impasse,* and any further progress must be in a different direction.

C. *Extensional Construct.* This is a very important type for science because of its emphasis on the quantitative aspects of things. The world contains not only distinctions of quality (upon the basis of which the previous types of constructs have all been developed) but also differences in quantity. Qualities may be arranged into series by means of these quantitative differentiations. When all qualities of a given kind are arranged in a series, we pass imperceptibly to supposed members beyond the extreme members of the series or between any two adjacent members. Qualities exhibiting this quantitative value may not exist, hence the notions by which they are designated are properly constructs. The most common of these are the following: zero, negative numbers, infinity, empty and unit classes, absolute zero, perfect elasticity, perfect vacuum, all kinds of averages and means, center of gravity, *etc.*

No attempt has been made in this paper to show in detail how these various fictions have been derived. It is the opinion of the author, however, that such a considera-

tion affords one of the most fundamental problems of the philosophy of science. Consider for example the concept of time. With regard to this notion, the philosophy of science should clearly show four things. (1) What meaning is implied in the scientific use of the term? What, specifically, are the characteristics of the Newtonian conception of a single, all-embracing, absolute time? (2) What does the concept mean from the point of view of the direct experience of the individual? Is time when considered from this angle a single, all-embracing, absolute thing? (3) By what fictional processes is the scientific notion derived from the individual notion? How are the various time systems of the individuals correlated into the single, unitary time system of Newtonian science? (4) How does the scientific notion serve to explain the facts of immediate experience? Or more specifically, granting that the Newtonian conception is derived by a rather elaborate process and therefore cannot truly picture the events of immediate experience, has the concept as a result lost all explanatory value? Such questions as these must be considered not only with regard to other conceptions of time, *e. g.* that implied by the relativity theory, but also from the point of view of each of the concepts of the special sciences, *viz.* number, order, quantity, space, motion, force, matter, *etc.* The general outline of such a consideration must be a theory of the formation of constructs, more or less like the one given above; the details depend upon a thorough understanding of the metaphysical nature of the concepts under discussion.

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THE TEMPORAL AND THE ETERNAL

BETWEEN the temporal and the eternal there appears at first sight to be absolute antagonism. The temporal is characterized by change, becoming, incompleteness. It is, and it is not, and it is to be. Attempt to define it and the definition is of what was, not of what is. The eternal, on the other hand, is assumed to be characterized by changelessness, completeness, perfection. It is absolute being, and from it non-being is entirely excluded. In it there is no becoming—no past, present, or future. The eternal, it is supposed, must be ever the same.

The temporal is given as empirical experience. We are aware of it in our waking consciousness. But because of its fleeting, illusive character, if our experience is of the merely temporal, it is a source of constant dissatisfaction. The religious literatures of the East and of the West are constantly reminding us of this. Dissatisfaction with the temporal has urged many of the spiritually minded to seek an experience which transcends it and to apprehend the eternal.

But how is an experience of the eternal possible? It is natural for those who seek it to deny the reality of the temporal. Is not all temporal experience contradictory and unsatisfactory, and therefore unreal? Why not then abandon it and seek the eternal? For those who in this way make the eternal their quest, the law

of life must be a law of asceticism. It is necessary for them to renounce the things of time in the hope that they may apprehend the eternal.

There are others who are not prepared to make this sacrifice. They are intensely interested in the world which, in their waking consciousness, they experience. It may be merely that they thoroughly enjoy their experience, or that they feel it is somehow real and have a passion to discover what it is. If it be necessary to abandon the events of time in order to attain the eternal, they are certainly of the opinion that the proposed sacrifice is not worth making. Eternity, emptied of time, they would hold to be an empty conception. They would consider it far better not to strive after so baseless a vision, but rather to accept temporal experiences as they come and to make the best of them.

Now my purpose in this paper is to indicate that the solution of the antagonism between the temporal and the eternal is to be found by apprehending the necessary relation between them and not by denying the reality of either the temporal or the eternal. To this end we will examine a few types of human experience in which these two aspects appear to be present.

One form in which the antithesis between the temporal and the eternal appears is in the relation between facts and ideals. In all human experience this opposition is present. In the experience of the individual there are the actual events which make up the experience, and there are the ideals which inspire, guide, and give purpose to it. Again in national life there are the facts of national history, and there are the ideals, which are first passionately apprehended by the great men of the nation, but which eventually move the wills of the masses.

There is no doubt as to the character of the factual

side of such experiences. It belongs to the temporal and changing. It is true that ideals also change. The ideals of youth differ from those of age, and the ideals of one age from those of another. Nevertheless it appears that ideals have a more than temporal character and significance.

This may become clear if we attempt to answer two questions: (1) What is an ideal? and (2) What is the relation of ideals to facts? Both these questions may be answered by the consideration of an example.

Some time ago English newspapers were full of accounts of the dispute in Britain between coal miners and coal owners, and of the sympathetic strike of the trades unions in support of the miners. The cause of the dispute was, as we all know, the proposal on the part of the owners to reduce the wages, or to increase the hours of work, of the miners, and the acute difference of opinion on the part of miners and owners as to the justice of the proposed reduction. Since the parties concerned were unable to come to an agreement, the government intervened with a view to finding, if possible, a solution which would be recognized by both parties as just. Now what does the fact of government arbitration signify? It is obvious that intervention of any kind would be impossible unless it were assumed that there is a possible settlement of the dispute which is just. It is the ideally just settlement that the arbitrator seeks to find. And how does he seek the just solution of the dispute? Clearly, by an impartial examination of the facts. It is necessary for the arbitrator to make a very careful investigation of all the relevant conditions. The Prime Minister, in the case referred to, was obliged to acquaint himself fully with the conditions under which the miners in the various districts worked and with the remunera-

tion which they received for their labour; he was also obliged to study the returns from the industry to the various owners, the relation of the coal industry to other industries, the possibility of foreign trade, and many other problems of the kind. For, only by an impartial examination of all the relevant conditions is it possible to discover the settlement that is just. It is difficult, of course, to be certain that any settlement which is actually proposed is the most satisfactory one possible. The conditions are so very complex, and the interests of the different parties so conflicting. In the case under discussion the fact that the Trades Union Council called a general strike in support of the miners shows how intimately it was supposed that the question in dispute was related to many other interests. A complete knowledge of the relevant conditions governing any such dispute is extremely difficult to attain, and such a knowledge may be well nigh impossible. It is also very difficult to become an entirely impartial arbitrator. For this reason any proposed solution may not be ideal. Nevertheless it is believed that a complete knowledge of the relevant conditions would suggest to an impartial mind a just settlement. Further, when the nature of such a possible settlement is apprehended, it is apprehended as an ideal. It represents the conditions which ought to be attained, whatever may be the conditions that actually exist.

Two points seem to me to become clear from the consideration of this example. First, that the ideal arises out of a knowledge of facts. It cannot be unrelated to facts, but belongs to them and completes them. The ideal represents what the facts ought to be. Secondly, the ideal transcends the temporal facts. A particular ideal, such as a proposed settlement of the dispute between miners and coal-owners, may transcend the facts in the

sense that it is not yet realized. And further, in so far as the proposed settlement is ideal and therefore presumably just, it transcends the facts by virtue of its participation in justice which may be present in any other situation besides that pertaining to the dispute in question. Plato discussed justice 2500 years ago. He found it to consist in a relation of a certain type between persons rendering different kinds of service to a community—the kind of service to be rendered being dependent on their physical, mental, and spiritual equipment. Undoubtedly it is not easy to realize this kind of relation in the complex conditions of actual life, but the relation is possible. The ideal—justice—is founded in the nature of Reality.

When introducing this antithesis between ideals and facts I pointed out that ideals also change. The example that we have been considering may be used to illustrate this change. Compare the relations between workmen and employers that are relevant to the present dispute between miners and coal-owners, and the relations between masters and servants which prevailed when St. Paul urged in his letter to the Ephesians:

"Servants, be obedient to them that according to the flesh are your masters, with fear and trembling, in singleness of your heart, as unto Christ; not in the way of eyeservice, as men-pleasers; but as servants of Christ, doing the will of God from the heart; with good will doing service, as unto the Lord, and not unto men: knowing that whatsoever good thing each one doeth, the same shall he receive again from the Lord, whether he be bond or free. And ye masters, do the same things unto them, and forbear threatening: knowing that both their Master and yours is in heaven, and there is no respect of persons with him."

It is at once obvious that time has brought tremendous change into the employment relation. We cannot possibly imagine the Prime Minister urging the

miners to be obedient to the coal-owners with fear and trembling, in singleness of heart, as unto Christ. If he were to do so the miners would certainly want to know what he meant by assuming that the coal-owners were by the nature of things, if not by God, placed in authority over them. They would remind him that they also possessed their rights, and that they as well as the coal-owners could claim the privilege of expressing their view of the situation. And not only is this the case, but we know also that the Prime Minister would recognize their claims as just. History teaches us that there is continuous evolution in all such relations as those we are considering. The relation between employer and employed is not now the same as it was at the time of Christ, nor is it what it was in the Middle Ages when the employee was the serf of his baronial lord. For this reason if we attempt to imagine a similar dispute to that we have examined arising in a different age, we must admit that the impartial arbitrator would discover what he considered to be a just solution of the dispute in a different set of relations. The particular manner in which the just relation is conceived in one age must differ from the manner in which it is conceived in another. Nevertheless this does not prevent us from holding the conviction that the ideally just relation once apprehended transcends the temporal situation in relation to which it was apprehended. When once apprehended, and certainly when once attained, it becomes a heritage for succeeding generations, and further it participates in that universal justice which belongs not to this or that temporal situation, but to all time.

A reference to a discussion of the idea of God as it appears in the literature of the ancient Hebrews, which I discussed in a recent paper, may further

illustrate my meaning. In this paper I endeavoured to show how the idea of God as conceived by the Hebrew people evolved. They first conceived him as merely a tribal God, one among the many Gods of the surrounding nations, and his office was to protect the people of Israel from the nations, and their Gods, who were at enmity with them. From this he became the dominant God, the God of Hosts, who had power over other nations besides the Israelites; then the Holy One of Israel, the God who demanded righteousness rather than sacrifice. The greater prophets gradually attained a deeply moral and monotheistic conception of him, and eventually Jeremiah conceived of him as holding personal relations with his people. He became the God of the individual who approached him through purity of heart and purpose, and not merely the God of the nation. Finally, the fine conceptions of the greater prophets of Israel culminated in the beautiful experience of Jesus, who knew God as his Father and the Father of all mankind, as the God who loves his children and whose purpose is to redeem them. In the same paper I further endeavoured to show how this development in the conception of God was intimately related to changes in the history of the people of Israel. I pointed out how the changes in the conception of God represent progressive ways in which the Israelites grasped the inner significance of stages in their national history. Finally the permanent importance of the Hebrews' conception of God was suggested. I maintained that whereas the facts of their history were relatively unimportant, their spiritual conceptions have been handed down from generation to generation. They interpenetrate all that is most vital in modern thought, and profoundly influence our outlook upon life and our ways of acting in modern times.

Now a people's idea of God embodies their idea of the good, and it seems to me that the development of the idea of God among the Hebrews is a striking illustration of the inevitable intimacy between ideals and facts and of the way in which ideals assume an importance which transcends the temporal significance of the mere facts.

Another form in which the antithesis between the temporal and the eternal appears is in the relation between facts or events and values. This form of the antithesis is so intimately related with that already mentioned that it may almost be regarded as the same. A separate consideration, however, may lead to a clearer understanding of the problem we are investigating. It is clear that in the apprehension of values something is experienced that is not merely temporal. Beauty, truth, and goodness belong, not to this or that time, but to all time. We will therefore try to determine somewhat more accurately the nature of a value experience, and with this end in view will analyse briefly an experience of value. Let us take an experience of beauty.

Professor Alexander describes value experiences as experiences of tertiary qualities. By this he means that values are qualities that reside not in objects alone, but in wholes which embrace subjects and objects in relation, and in this assumption he is undoubtedly right. What do we mean by a beautiful object? It is an object—such as a sunset, a flower, a human form, a character—possessing a certain form and a certain quality, as it appeals to a subject of a certain type. Such an object does not appeal alike to all subjects. Its appeal depends not only upon the nature of the object but also upon the nature of the subject. To explain fully the appreciation of a beautiful object it would be necessary to understand the

personality and the entire history of the subject. The inherited and created character of the subject as modified by the whole of his past experience affects his power of appreciation. For this reason the object may appeal in very different ways to different subjects. Now when an object is appreciated as beautiful by a subject, it arouses in the subject emotions of a particular kind and a certain attitude of will towards the object. Within the subject there is enjoyment and it may be deeper feelings which stir the imagination, together with the will to retain the presence of the object in order to continue the enjoyment. The value belongs to the conscious whole which includes this subject-object relatedness. Further let us consider the expression of the aesthetic experience. I say the expression of the aesthetic experience and not the representation of the beautiful object. For when an artist creates a work of art he represents not merely the beautiful object, but this object as it is appreciated by him, in other words he represents the object as it appears to him to be significant. In this respect there is a radical difference between the creation of the artist and the description of the scientist. The scientist is interested in the object as an object. In describing an object he endeavours to eliminate entirely the influence of the object upon himself. He is not interested in his feeling or thought, but wishes to determine the character of the object. The artist on the other hand tries to catch the purport of his own deep feeling as it is stirred into life by the presence of the object. He is interested in the object, but in the object as it lives in his own consciousness, in his burning imagination. As with passion and with earnestness he represents the object, he expresses himself in the representation. The artist's expression is the expression of a value experience. It is

an expression of the object in him, enabling him to realize himself. Thus the work of art created by him as it were catches and renders permanent a moment in which the artist lived intensely; and in so far as we are able to appreciate his art we participate in the imagination which gave it birth. From this, however, let us not infer that the artist represents a merely subjective experience. His representation is of a subject-object experience. The subject, in his deepest moods, embraces the objects which are present with him, and he can only express himself by the expression of the objects within his embrace.

I will endeavour to state as clearly as possible how experiences of beauty are instances of the union of the temporal with the eternal. It is not necessary to explicate the temporal character of such experiences, since this is obvious. But the question may be asked: In what sense are these experiences significant of the eternal? The answer to this question which first occurs to us is that they are eternal in so far as they are experiences of value; for, as such, they have a meaning which transcends the temporal events in which they are apprehended. This answer, however, is very vague, and the further question arises: Is it not possible to determine and to describe certain characters of value experiences which are eternal? In reply to this question it appears to me necessary to state that such a description of eternal characters is not possible, although it is true that experiences of value are characterised by the possession of certain common qualities. Consider, for instance, any beautiful natural object, such as a sunset or a human form; or any great work of art, as for instance a fine representation of any such object. Any natural object belonging to the class of objects experienced as beautiful

is such that, whenever and wherever it occurs in the ordered movement of Nature and it is apprehended by a mind gifted with the power of appreciation, there is present a value experience which may be described as an experience of beauty. Further, great works of art are characterised by certain relatively permanent qualities which affect such minds often more powerfully than the natural objects which they represent. Works of art, however, produce this effect upon minds by presenting to them certain features of the natural objects upon which the experience of beauty depends. Thus it appears that the value experiences are not limited to any definite time, and an attempt may be made to define the common features of value experiences. Let us make this attempt in reference to the experience of beauty, and take as an example a fine representation of the human form. The fact that this object gives aesthetic enjoyment may be found to be dependent upon certain qualities of line, form, colour, and light and shade, which produce the sense of physical reality informed by certain mental characters. The art critic could possibly describe these qualities with some accuracy and the competent psychologist might be able to describe correctly the feeling of heightened mental and physical vitality which the subject possesses when experiencing such an object, Nevertheless, although an approximately accurate description of the common qualities of these aesthetic experiences may be possible, the common qualities described do not constitute the value experiences. They may indicate certain conditions which are present when the value experiences are enjoyd, but the value experiences themselves are more than these conditions. The conditions are arrived at by an analysis of the value experiences, and are abstractions from the rich complete, and particular nature of the latter. Value pertains to

the particular and complete character of the experience and is necessarily affected by its dynamic and changing nature. But from this it does not follow that the existence of anything eternal cannot be inferred from value experiences. They occur when events or objects of a certain type are apprehended by minds endowed with certain powers. They emerge from the contact and union of two powers: the power in the events or objects apprehended and the power in the mind which apprehends them. When this union takes place, there is an experience which the mind immediately apprehends as a value experience. Intellectual analysis may discover within such experiences certain general characters present when they are of value. But these are not the value, neither are they eternal; nevertheless they may indicate the existence of certain enduring powers or active principles, and may further indicate the manner in which they are characterised.

Now to sum up the import of these remarks on the nature of beauty we may state that: (1) The appreciation of beauty emerges from the experience of certain kinds of objects and there is thus a necessary relation between beauty and temporal events. (2) The beauty apprehended is apprehended as of value and therefore as significant beyond the time of the events in which it is apprehended. (3) Nevertheless it is not possible to determine any character of the beauty apprehended which is changeless. (4) Beauty is a feature of the conscious whole of the subject-object relation and it therefore partakes of the change of the subject. (5) It appears that the artist in creating his representation is intensely aware of the worth of the experience in which his mind and imagination are deeply stirred by the appreciation of the beautiful object. He seeks to retain and

to embody it, so that it may become a permanent possession, and that he may be able to impart something of the valuable experience to others. (6) Finally, in so far as the experience is an appreciation of beauty it is identical with beauty wherever apprehended.

I have confined our consideration to the beautiful, but I am convinced that the examination of any other experience of value would lead to a similar conclusion. We should find that all value experiences are experiences of temporal events, that the value element in the experiences transcends the time of the events, but that it is not possible to discover any feature of such experiences that is changeless and in that sense eternal.

What then have we discovered about the eternal? Apparently nothing very definite. We have not been able to discover any character within experience that is changeless. Ideals and values possess a significance which transcends the temporal events in which they are apprehended; when once attained they become permanent possessions for the people who come after, and there is identity between value experiences of the same kind. Although the just, for instance, must be realized in some particular concurrence of events, it is identical with justice as realized in any other age and under any other conditions. Beyond this, however, we are warranted in making no assertion about the eternal, and it may appear to some that the investigation has justified the attitude of those who hold that it is necessary to abandon the temporal in order to attain a mystic apprehension of the eternal.

Before concluding I should like to mention a conviction as to the interrelation of time and eternity which came to me many years ago and the purport of which still appears to be true. This may seem to be independent

of the argument I have put forward but it suggests to me the manner in which our problem must be solved.

The question which I then asked was: How is it possible to reconcile the reality of time, which implies change and indeterminateness with respect to the future, with the eternity and perfection of God? I assumed that time is real since it is given in experience, and I was convinced that it is not satisfactory to deny the existence of non-temporal Being in order to maintain without contradiction the existence of the temporal. But the conception of God as Spirit seemed to present a solution of the difficulty. For both the eternity of God and the existence of the temporal are necessary if God is Supreme Spirit. Spirit is of necessity creative. It is ever bringing into being that which is new. God must be Spirit, because Spirit is greater than any other form of Being, and if he were not Spirit there would be a form of Being that is greater than He. God is therefore the source of becoming. Should the process of becoming cease, should God be a completed Being, God would change. He would cease to be the creator and creation is essential to his perfection. Thus God must be the changelessly-changing one. He would become less perfect if he ceased to be the source of change. This paradox of the supreme Spirit as the changelessly-changing seems to me to contain the truth which reconciles time with eternity.

Further Spirit as creative must be purposive and free, and purposiveness and freedom imply indeterminateness in respect of the future. Should this not be true there would be no Spirit but merely substance, and substance is less perfect than Spirit. God as Spirit implies possibilities as yet unrealized.

If Spirit be the highest type of Reality and Spirit is of necessity creative, then the most perfect kind of

creative activity is the creation of Spirit. Thus among the beings that are created by God are finite spirits. These also are free and, although dependent upon God for their existence, are able to act with a certain measure of independence of Him. By the creation of finite spirits God as it were increases the field of indeterminateness for Himself, for finite spirits are ever by their free action creating new situations for Him. Nevertheless herein, it seems to me, God reveals his highest perfection. It is greater for the Supreme Spirit to create finite spirits like unto Himself, despite the fact that they must needs limit His freedom, than to create only beings that are less than spirit. In the creative activity of the artist which falls within human experience, we find that once the artist has brought his creations into being it is necessary for him to submit to determination by the laws that govern these creations. So it is with the supreme Creator, but in addition many of his creations are themselves free.

From such considerations as these it follows that God cannot exist as Spirit unless the temporal be real. From the Supreme Spirit there must ever proceed new forms of being and these imply change and time. It is true, as I believe Lotze reminds us, that God is not in time but *time is in God.*

But in what way is the above relevant to our discussion of ideals and values? We there found that ideals and values are not eternal in the sense that they are changeless, but that they contain elements that are of permanent significance. How are we to explain this? Let us assume that God, the supreme Creator, is immanent in his creation. Then as the human spirit apprehends its world, can it not be that he obtains glimpses of the nature of the Supreme Spirit? And may it not be also that such glimpses are his ideals, his values? That

they are in the language of the poet just "broken lights of Him"? Then the only truly eternal is the Supreme Spirit, and the human spirit in so far as it partakes of His nature. Ideals and values change because they emerge from the temporal events of experience, but they have permanent significance and are eternal in so far as they belong to and reveal the Supreme Spirit.

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THE DIALECTIC OF RELIGION

THE untutored mind of the savage found God in stones and heard him in the wind. The mind tutored in formal logic sees in stones naught but stones, and in man only an albuminoid mass controlled not by soul but by an intricate mechanism of nerves. Little wonder that in all ages the religious instinct has cried out against that training of the intellect which fetters the imagination and robs man of his gods; while the discursive intellect has on its side protested against the activity of the imagination, which sees in nature what it wishes to see, as inimical to disinterested scientific investigation. Shall we then compromise, assigning to the intellect the realm of nature, where it may pursue its scientific investigations undisturbed by the wild flights of the imagination and unhampered by the prohibitions of religious dogmatism; while assigning to religion the sphere of the supernatural and superrational, where religious dogmas can be asserted without fear of contradiction except by other dogmas and where imagination can give free rein to its fancy unencumbered by the slow moving and critical intellect? Or shall we say that religion and imagination belong to the childhood of the race, and that as civilization progresses religion and imagination are to be discarded in favour of the reliable if drab findings of the intellect? Neither of these solutions can long satisfy. To those who seek unity in the mental life, a compromise which introduces a fatal

dualism into thought in untenable; while to those who seek fullness of mental life the sacrifice of imagination to intellect on the one hand, of scientific curiosity to religious dogmatism on the other, is an unwelcome impoverishment. Is there no alternative? May not the conflict between science and religion be due to no fundamental opposition between them, but to a misunderstanding; may not the distinction between them be a natural development of human culture indeed, but not its final form? The savage, in his most primitive state, makes no distinction between science and religion. Can we recapture the unity of mental life which characterizes the savage, not by a return to his uncritical mentality, but by a more critical investigation of the rôles of science and religion in the culture of today?

Three features stand out in the savage's attitude to his world. In the first place, whatsoever is at the time engaging his attention is for him a matter of supreme importance. Like the child who can give his undivided attention to a rattle, the savage is wholly absorbed in the present interest, for he has neither the leisure, the training, nor the wealth of remembered experience to make him capable of disinterested observation. Imperious instincts—hunger, anger and sex, fear, fatigue and cold—clamour in succession or simultaneously for satisfaction and it taxes all his resources to meet these needs as they arise. There is indeed much around him that is a matter of indifference to him, but for that very reason he notices it not. There is much that has been or will yet be of interest to him, but that too he has forgotten or ignores. That only which is a matter of present interest holds his attention, and he can therefore yield to it a reverence which it might fail to command had it to press its claims against competitors. He worships stones and beasts as

gods, not in spite of their triviality, but because to him they are not trivial.

In the second place, he knows nothing of well defined species or inviolable laws. The distinctions so familiar to us of animal and vegetable and mineral, of psychical and physical, of perception and illusion, of waking life and dreams, of possible because according to law and impossible because in violation thereof—these and all like distinctions the savage has not yet made. Not that he does not sense differences but that he does not regard them as fixed. If in the jungle a tiger should suddenly appear or a seemingly bare branch reveal a snake, he will believe that jungle and branch either became or gave birth to tiger and snake. If what at a distance is taken for a man be later seen to be a tree, or what seems to be water but a mirage, he assumes not that the one has turned out to be the other but that it has turned into it. If a man blow and a breeze chance to follow, the man made the breeze; or perchance the breeze is some 'big man' blowing in emulation. And if, when breath leaves the body, a serpent chance to glide out of the death chamber, it is the man's breath, that is, his life, which has turned into or entered into the serpent;—since neither observation nor interpretation is critical either explanation will do. For to the savage this is not a world of orderly phenomena but a world of caprice. Nothing surprises—in the sense of being contrary to what one's observation had led one to expect,—for neither has accurate observation been made nor records been kept except in the form of oral tradition, and that grows in the telling. Or it would be equally correct to say that everything surprises; for if one does not know what to expect then whatever happens is unexpected and every act is therefore an experiment. Whatsoever engrosses the attention of the savage is thus not only a

matter of supreme importance to him at the time, but is also capricious, untamed, concerning which nothing seems impossible of belief.

In the third place, although the savage is ignorant of natural law he is not free from law. He may know nothing of the uniformities of nature, and yet these uniformities determine not only the consequences of his behaviour but also that behaviour itself. That behaviour, whether towards tree or tiger or sun, is determined by the instincts he has inherited and the habits he has acquired in his contacts with his fellow men. He strikes in anger or caresses in love, he shouts in fright or to frighten, he cajoles, beseeches, flatters, bribes. And whether it be chieftain or wife or sun or tree or beast of the field, he reacts to all in the same general way. But he acts towards all as if they were animated by the same emotions and passions as himself, not because he has any theory as to the nature of the world around him, but because he has none. He does not say, river and sun are such beings as I am, therefore I will bring them gifts and praises. But he brings them gifts and praises because that is his habitual way of acting toward his fellows, and it never occurs to him to act differently toward the rest.

A striking parallel will at once be apparent between the savage's attitude to his world and the developed religious consciousness. Firstly, for the savage that which engrosses his attention is, as we have seen, a matter of supreme interest; for the religious consciousness, religion is this matter of supreme interest. Again, for the savage the phenomena of nature are capricious and their conduct incalculable; so for the religious consciousness is God beyond human calculation and comprehension. And lastly, just as the savage fancies nature to be akin to himself, so also does the religious consciousness conceive God:—

God may be immeasurably beyond man's comprehension, but he is at least more akin to man than to wood and stone. And this parallel between the developed religious consciousness and the savage's attitude to his world is no mere coincidence, for the one grows out of the other. It is the same attitude; but the objects to which it is directed are different. And the history of religion is the story of the steps whereby this change has come about; the steps whereby man has by degrees withdrawn the emotions and postures of worship from one and then another of the phenomena of nature, from stones, from beasts, from rivers, from sun, until at length nothing remains in nature worthy of worship. The religious object, if indeed there is one, will now be sought in the supernatural.

It is easy to see how man comes to lose confidence in many of the things which had hitherto claimed his veneration. He pins his faith on amulets which fail to ward off disaster. He follows heart and soul the goddess of the chase only to find, on his return from some successful hunt, that the god of death has claimed some loved one and his shout of triumph gives way to lamentation. He looks to the gods of his fathers to protect him from his enemies, but the gods of his enemies prove more powerful. For it is only so long as the object of one's devotion and trust has no rival that it can reign supreme. Only so long as man's needs were simple and his memory short could he yield himself with naive wholeheartedness now to one and now to another particular interest, particular god. But with the conflict of needs and the storing up of memories, judgments of relative value come to be made. Man is compelled to make selection between conflicting interests, to choose whom he shall serve. Whereas all objects and events seemed at one time of equal importance, now they take rank. The vehemence of his devo-

tion is enhanced in favour of some, detached from others, until at length many of them fail utterly to arouse in him any emotion of religious reverence, while to others there accrues an added sense of dignity as they are felt to be not only important at the moment but potent at all times. Thus do the phenomena of nature tend to subdivide into secular and religious; holy places, holy days, holy objects, holy deeds, and holy men become separated from those that are profane. And when this distinction is made, secular and religious object both lose. The secular object is no longer of importance and an end in itself; it is "common and unclean." It is no longer mysterious and potent and incalculable; but is exposed to observation and calculation, understood by man and under his control. It is no longer instinct with will and purpose; it is but a mechanism subject to law, blind and purposeless. And now that the comprehensible and the calculable, the controllable and the common, are grouped together under nature, what is left for religion but superstition and credulity, mystery and caprice? Here—where familiarity has not yet bred contempt—man stands in trembling fear or unreasoned hope. And when at length worship grows into abject and servile adulation, so that nothing visible or comprehensible, not even the sun or the vast expanse of heaven or the spirit of man, is felt to be worthy thereof, religion comes at last to affirm that God Most High is neither to be identified with, found in, nor represented by graven image of, anything in the heaven above, the earth beneath, or the waters under the earth. In this way does the object of religious veneration become not only a mystery and a caprice, an object of abject fear and superstitious credulity; it also becomes an abstraction removed from every natural interest, object and experience.

Such is the first completed step in the evolution of the

concept of God. Far from finding gods in each and every one of the phenomena of nature, the evolution of religion has led, when it stops at this point, to the utter separation of God from nature; so that if there be a God, scientific investigation will not find him but unquestioning faith alone. And at this stage atheism is not very far away. For if we hold that no object worthy of religious veneration is to be found in nature, it is as easy to conclude that there is no such object as to conclude that it is to be found outside nature. Religion then finds itself compelled by elaborate arguments to prove, or by threats of hell-fire to compel belief in, the existence of a God who is no longer a God of possible human experience. And because a God who is beyond human experience and intellect is a God whom even his believers can easily ignore, two results follow. For some this absentee God becomes an object of verbal and hypocritical profession only, but has no real place in and exercises no shaping influence upon one's thought and conduct,—for all the difference belief in such a God makes, he might as well not be. While others, because it is difficult to conceive and still more difficult to yield loyal attachment to an abstract God, feel compelled to set up some more concrete object of worship. Thus do the higher religions come to have their "emanations" from God—"Logos," "Demiurge," Divine Wisdom; their "incarnations" of God—Krishna, Buddha, Christ; and their "interventions" of God—miracles, providence, and answers to prayer. These emanations and incarnations and interventions are man's attempts to restore contact with a God between whom and himself theological speculation has fixed an impassable gulf. It is just because a God who is to be found not in nature but outside can satisfy neither science—being *ex hypothesi* incapable of demonstration, nor religion—being incapable of communion with

man, that religion is led to assert both intervention and incarnation although in so doing it violates the logic of supernaturalism, the logic namely of the view that nothing in nature is or reveals God.

But it is in the moral sphere that the notion of an absentee God manifests its greatest weakness. For if God is not in nature then is nature robbed of divine worth. Then of all callings is the ministry alone regarded as "religious," and the layman is, by implication, freed from the responsibility of taking his calling also as a sacred trust. The same purity of life, the same devotion to the service of his fellows, the same endeavour after true manhood are not expected of him as of the minister. So it has come about that in business and industry, and only in a lesser degree in the professions, profit is regarded as a legitimate goal and wealth as the measure of success. But this dualism works with equal injury to the ministry. For, the sacredness of the ministry being considered to lie not in any natural human service but in some supernatural gift, his profession becomes artificial and formal; it loses the spontaneity and vitality of naturalness; and when it meets scepticism can counter only by threat or apology. I have heard a preacher extol the natural virtues of an hypothetical parishioner—a faithful husband and loving father, a kindly, just and honest neighbour, all you would have a man to be,—and then express his regret that such a man should miss eternal salvation because he would not take the trouble to go to church on Sundays. Why go to church? Because the Sunday service may somehow help you to live your daily life more nobly? Because it is well at times to step aside from the dusty tread-mill of that daily life and ask ourselves what is the eternal significance of life, or indeed whether it have any? None of these or similar grounds did the preacher offer in

justification of his appeal for more regular attendance upon the services of the church, but this rather, that it was God's command which man must unquestioningly obey if he would assure himself of eternal life. How far is this from the test of righteousness which Jesus presents in the parable of the sheep and the goats! And yet this preacher thought that it was the gospel of Jesus he was preaching.

But the tragedy of the secularization of morality and the consequent formalizing of religion is not merely that it makes service to man unimportant in the eyes of God and service to God meaningless in the eyes of man; the tragedy goes deeper. It consists in this, that religion is often brought into conflict with morality, the supposed command of God into conflict with one's obvious duty to man. Think you the priest and the Levite passed the wounded man by on the other side because they had no compassion on him? Their hearts may have bled with anguish for all the story implies to the contrary. What hindered them binding up the bleeding wounds was not lack of pity, necessarily, but the pious consideration that if they should soil their hands with blood they would render themselves ritually impure and thus unfit for the service of the temple whither they were bound. In the name of their duty to God did they neglect their duty to their fellow man. And still worse than this is the injunction which the supposed duty to God often lays upon man not only to neglect but even to violate the dictates of humanity. Of what wars and persecutions, of what Jew-baiting and burning of witches and heretics has not this false notion been the cause! And all because—religion having been consigned to the realm of the unnatural and the incomprehensible—reason and common-sense were not allowed to work upon it and modify it according to the

highest ideals of the age. Thus did religion too often become a store-house of superstition and credulity and a support of antiquated ceremonials which, whatever their significance to the people among whom they originated, have become in most cases meaningless, and often repugnant to morality and common-sense.

Against this formalism, this externalism, this unnaturalism in religion did the great prophets of Israel protest, and none more vigorously and sanely than their great successor, the carpenter of Nazareth. "I will have mercy and not sacrifice." "Who hath required this of you, to trample my courts? Wash you, make you clean, put away the evil of your doings from before mine eyes." "Let justice flow as waters and righteousness as a mighty stream." "Inasmuch as ye have fed the hungry, clothed the naked, visited the sick, given a home to him that was a stranger, ye have done it unto me." This prophetic message needs to be repeated to-day, that God is not a God of some other world but of this; not of the supernatural but of nature; not of ecclesiastical ritual but of common morality. But if we are to find God in our daily life, the evolution of religion must come full circle. The half truths which have been offered for belief must be made to yield together a fuller comprehension. The savage, on the one hand, saw gods in all about him; and was right in finding all natural phenomena instinct with divine significance. His error lay in seeking this significance in each by itself instead of in that harmonious blend of reality to which they all contribute; for no single phenomenon of nature in isolation is adequate to man's needs—logical, ethical or esthetic. The developed religious consciousness, on the other hand, which finds God not in nature but only in the supernatural, is therefore right in rejecting as outworn superstition and degrading prac-

tice the worship of idols and ikons and images, of heavenly bodies and earth-born men. But it is wrong in affirming that these are not divine; what it should have affirmed is that they are not, individually, gods. The corrective for not finding God in any single one of the phenomena of nature is not to look outside of nature for your God,—for you risk either finding no God or worshiping an abstraction; but to find God in the harmonious blend and interaction of natural phenomena. The separation between secular and religious will then be done away. The distinction will remain but will be differently interpreted. The word 'secular' will come to denote any object or activity regarded by itself and pursued for its own sake, and therefore lacking that significance which belongs to it only as it contributes to a wider reality, only, that is, as it is enhanced in its own value because of its value for the whole. And on the other hand religion will no longer be a piety directed to an abstract and absentee God, or to a more or less accidentally selected group of beliefs, acts, objects, and divine men, to whom the halo of a traditional and mysterious sanctity adheres, but will consist in a sense of the divine significance of every object, act and thought in their mutual correlation, in a sense of the divinity and dignity of every man as a member of the comity of mankind. Once more will sun and moon and man and "primrose by the river's bank" be coloured by that magic of the imagination which sees in them not so many separate objects of investigation, but so many centers of converging influences, objects whose contemplation leads the soul out along many paths into the endless wonders of the universe. Once more will birth and death, factory, home and farm, business, education and play, become sacraments, the ritual of man's worship of the ideal life, the yearning after which is the working of the

divine spirit in man. Then will it be as meaningless a task to prove that God is as that Reality is. For an absentee God needs to be proved. But a God who is Reality seen steady and seen whole requires not that we prove that He is, but that we find out with ever growing insight what He is.

It is to science and philosophy that this task of the intellectual search for God belongs. But life is the quest of the Beautiful and the Good as well as of the True; and for the savage these three quests were one. He had not yet distinguished from each other art and science and morality, but all cooperated in guiding and enriching his spiritual life. He had therefore no religion as a distinct department of human endeavour, for all that he thought and did constituted his religion and contributed to its growth. His myths were his science as well as his creed, while personal and social duties constituted his ritual. But his observations were inaccurate and his explanations crude; and his conduct was guided now by impulse and now by routine rather than by any intelligent purpose. However as time went on man grew more accurate in observation, more intelligent in explanation, more rational in conduct. But he is conservative. The old ritual and the old myth have been for so long associated with his fondest hopes, his deepest experiences, his most violent emotions, that he is loath to let them go. When therefore the intellect offers new explanations of the phenomena of nature and the moral sense demands a new code of conduct, he clings in the name of religion to the old, the outgrown, the obviously inadequate and erroneous, and calls it supernatural and revealed. So does his science come into conflict with his creeds, his morality with ritual, his common-sense with religion. Reality comes to be divided into two realms, the natural and the supernatural; men

into two camps, the unsaved and the saved. But when at length he comes to see that his fondest hopes, his most profound experiences are not involved in the fate of creed and ritual, that what is true in religion is not the letter but the spirit, then he comes to fear less and less the progress of science, to resist less and less the changes which it compels him to introduce into his ritual and beliefs. Thus are science and religion gradually returning to that harmonious cooperation which characterized the spiritual life of early man. To his religious beliefs and ritual the savage brought the best reasoning to bear of which he was capable—crude and naive as it was. We are true to the religious impulse only as we too bring to bear upon religion the best thought of the day. This does not mean that religion is to become an intellectual discipline merely, but that the same intelligence must be brought to bear upon the interpretation and coordination of religious experiences as upon physical and psychical phenomena. It is true indeed that the task of science is not yet complete and probably never will be. The solution of today's problems serves but to give the scientist the insight to see and the capacity to solve still greater problems tomorrow. As each extension of the telescope has served to bring a larger number of stars into man's ken, so each new insight into physical and human nature serves but to open up further vistas for exploration. The as-yet-unknown will ever extend beyond the farthest confines of the known. And if men will limit the predicates 'scientific' and 'natural' to the known, then will the as-yet-unknown be superscientific and supernatural. But the supernatural, in this sense of the word, will be an extension of the natural; the unknown will not be a break with the known but continuous with it. And if so, every new discovery of science will be not a driving of the gods

of superstition and credulity farther back into the surrounding darkness, but will be so much light thrown upon that one great Mystery of which man and his experiences are but an infinitesimal part, and yet a part. The quarrel of science and religion in the past has been due to the fact that religion has confused these two senses of the word supernatural—the supernatural as the survival of outgrown myth and ritual when science and common-sense have made these meaningless and false; and the supernatural as the Beyond, the As-yet-Unknown which beckons man on in an endless endeavour to learn, to love, and to follow.

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THE RELATION BETWEEN BUDDHISM AND THE UPANISHADS

I

THE greatest want under which Buddhism has been suffering for a long time is perhaps the restoration of its spiritual background. Much has been written about the teaching of Buddha; an increasingly large amount of work has been done by way of translating original texts; the career of Buddhism has been accurately traced in all its vicissitudes; and even the conditions of life, economical, political, social and religious, which prevailed in Buddha's days, have been more or less ascertained. But the animating spirit, the fundamental principles, and the guiding ideas, which made Buddha give a particular form to his teaching, have yet to be precisely determined. Unless this is done it will not be possible to view Buddhism in correct perspective, much less to appreciate it properly.

It is in the absence of such an inquiry—owing to a deficiency in scholarship, if one may say so—that the world has come to possess a false notion of Buddhism. The illusion was created that Buddha's teaching was directed not only against Brahmanism but against the Upanishads also. One illusion begot many. That Buddha was atheistic or at least agnostic, that he denied the reality of soul, and that he characterised the supreme quest

of life as a condition of utter annihilation, are only prominent examples of these. The result is that, at the present day, Buddhism is understood to be an odd mixture of high moral teachings and thorough-going denial of the very basis of moral life. How these illusions arose is not in question here. Unfortunately Buddhists themselves are blamable in large measure for this state of affairs. And our gratitude to Dr. Rhys Davids for all the good things that he has done in the cause of Buddhism, should not forbid us to point out, with regret, that he, more than any one else, is responsible for the spread of these illusions in English-speaking lands. If Buddha were to visit the earth today, and talk with his followers on the various aspects of their beliefs or read the books written by eminent orientalists, he would be shocked to learn that views are attributed to him which he never held, and consequently he would have no hesitation in disowning and repudiating them altogether.

That Buddha was anti-Brahmanical in spirit admits of no doubt. In no measured terms he condemned the sacrifices, the meaningless rites, the extravagant ceremonials, the hocus pocus of magic, and the vulgar superstitions associated with the religion of the vedas. But so also did the Upanishads! As a matter of historical fact Buddha fully entered into the spirit of the Upanishads in his attitude towards the popular religion.[1]

Whether this sympathy between the two was confined to the negative attitude of condemning a third, or whether it was wider in scope, is a problem which does not seem to have been raised seriously in the history of Buddhistic thought. The doctors of earlier days, Asvaghosha, Nagarjuna, and Asanga who were more in touch with the sources than we can ever aspire to be,

[1] *Cf. Brihadaranyaka*: 3.5.1; 4.1; 2.6.2; and particularly 1.4.10; and *Chandogya*: 1.12; 4.1.3; 5.3-10; 6.1; 6.1.

understood and interpreted Buddhism in terms of the ideas developed in the Upanishads. But time and human perversity did their worst. The old doctors were forgotten, and a false view of Buddhism was allowed to creep in. In modern times it was only recently that attention was called to this question. Mr. Edmund Holmes pointed out, "that Buddhism had been deeply influenced by the ideas of the ancient seers can scarcely be doubted."[2] More recently still, Prof. Radhakrishnan adopted this view: "Buddha did not look upon himself as an innovator, but only as the restorer of the ancient way, i. e., the way of the Upanishads."[3] The Professor would appear to hold that, "while the only metaphysics that can justify Buddha's ethical discipline is the metaphysics underlying the Upanishads,"[4]. Buddha carried out the teaching of the latter only partially; for "the central defect of Buddha's teaching is that in his ethical earnestness he took up and magnified one half of the truth and made it look as if it were the whole."[5] Mr. Holmes' view is wider; to him Buddhism is as complete an expression of the Upanishads as the limitations of practical life would allow.[6] Thus it is held that the relation between Buddhism and the Upanishads is that of one-sided dependence, viz., of the former on the latter.

But when all the facts are envisaged the relation would seem to be one of mutual dependence. Chronologically, the Upanishads were anterior to Buddhism. This should not mean that the former in no wise depend upon the latter. When considered from the point of view of development, the two seem to be organically connected. The theoretical basis of Buddha's scheme of life is the

[2] *The Creed of Buddha*, p. viii. [3] and [4] *Indian Philosophy*, p. 470.
[5] *Ibid.*, p. 471.
[6] *The Creed of Buddha*, Ch. V.

teaching contained in the Upanishads; and separated from the latter the former would appear like a jack in the box in the history of thought, in flagrant violation of the law of continuity. Conversely, for the practical application of the Upanishads we have to turn to Buddha's teaching. To add to this, Buddhism contains a reasoned explanation of the negative value of empirical existence, an explanation which is essential to complete the teaching of the Upanishads themselves, but which, if at all present in them, is present only in the form of scattered hints. If life is one, if its theoretical side, however distinguished, is not separate from the practical—if, that is to say, the two are complementary to each other, then the Upanishads and Buddhism are incomplete if taken separately, but form one concrete whole if taken together.

This view is not as innocent as it might at first sight appear. It has serious implications, and it is well that they should be brought out explicitly. Scholars are in the habit of contrasting the metaphysics of the Upanishads with the ethics of Buddhism. This is, to say the least, an absurd convention. Certainly the Upanishads contain a metaphysics; but as certainly they have also an ethics. The disciplines which the older as well as the later Upanishads advocate are, if anything, moral. The supreme end of life in the view of the Upanishads is not merely noetic in character; it is, to be sure, a spiritual condition; and to attain it the will is also pressed and transmuted into service. Now look at Buddhism. It is admittedly ethical; but—*pace* scholars—it is also metaphysical in that it has a definite and coherent view of reality and of phenomenon. The morality which it teaches is only a preparatory discipline in the sense in which it is understood in the Upanishads. And the goal presented by Buddha is not the realisation of the moral ideal in a

narrow sense, but the attainment of a perfect spiritual state—the same as in the Upanishads—for which knowledge is also used, transcended, and sublimated. Thus each is metaphysical and ethical at the same time; and, as we shall show, they share the same presuppositions, present the same goal, adopt the same methods, and use the same ideas for scaffolding purposes.

How then shall we distinguish the one from the other? The Upanishads have three distinct marks. First, they move on the plane of theory, loftily indifferent to the facts of life; secondly, they contain profound thoughts which are conveyed in highly technical and learned language; thirdly, though in Buddha's days they were just reluctantly emerging from the seclusion of hermitages, they still retained their original esoteric character, and were still protected, as it were, from the vulgar gaze of common men. Buddha took hold of their teaching, gave it a distinctly practical turn, brought it into touch with the work-a-day world, translated it into the language of daily life, and thus made it available even for the man in the street. In this attempt it was necessary to make some adjustments and even certain modifications—not, indeed, in fundamental principles, but in matters of details. In this way what was taught in the Upanishads as a *theory of life* was converted by Buddha into a regular *programme*.

II

One presupposition which is generally considered to be common to both is the doctrine of transmigration. Strictly speaking, this is not a presupposition at all, for it is not organic to the teachings themselves. It was taken as the starting-point merely because it served the pur-

pose of summing up the popular beliefs of the day and of stating the problem in clear terms.

The doctrine as understood in the days of the Upanishads was derived from two primary beliefs, viz., the reality of self and the theory of Karma. The average Hindu, like the average man anywhere, took it for granted that, behind all the manifestations of individual life, there is an entity, a mysterious being, called the self, and that it is the substrate of all the qualities and the source of all the deeds. Side by side with this, another interesting belief was developed. It is a matter of daily experience that nothing happens without bringing about something else, and that anything happens because of something else which happened before. This rule, if it be so, was applied to the moral life; and hence resulted the theory of Karma, i. e., the law of causation in the moral sphere. As you sow, so shall you reap; and what you reap is what you sowed. This looks simple enough.

But there is a difficulty. There are facts which cannot be easily fitted into the theory. Variations in congenital tendencies and abilities, inexplicable privations like the one which puzzled Nicodemus, the undeserved happiness of the vicious in contrast with the misery of the virtuous: these are baffling mysteries of life. If anything could account for them, it must lie somewhere beyond the realm of experience. In the manner of the philosopher Kant, who posited immortality on grounds of ethical necessity, the Hindu of ancient days deduced not only future existence but also pre-existence on the same grounds. The theory of Karma was elaborated in such a manner as to include complicated processes of transcendental psychology. The distinctions of birth and death were swept aside at one bold stroke and reduced to stages in one continuous process of the life of the soul.

It would appear that every deed leaves on the self a permanent effect which is bound to manifest itself in due time, and that, at the expiration of visible life, the self takes its accumulated burden with it, like a snail carrying its house on its back, to be born again on the earth in order to reap the fruits of its own deeds. Transmigration is a self-propelled circular activity: birth, deeds, death; birth, deeds, death, and so on. The soul is caught in it, and it gets nowhere.

This was the form in which the doctrine was held even in Buddha's days. But Buddha eliminated the idea of self, and described transmigrations in terms of character: there are deeds and no doer. In this he made no departure from the teaching of the Upanishads; for even in the latter human individuality was condemned as an illusion. In the statement of popular beliefs it was allowed to stand where it was, only in the confidence that all empirical forms, including self, could be transcended together in one act by the inculcation of correct knowledge. Moreover, the circumstances under which the Upanishads were taught permitted the teacher to explain, and the disciple to understand, the precise sense in which the term soul was used in various contexts. Buddha had a difficulty in this respect. He had to deal with the men of the world; and they had no sort of philosophic discipline. To introduce, in talking with them, a term of protean meanings would be only adding to the confusion. He perceived also that there was an advantage in his way of presenting the matter. The average man would understand much more clearly what it is to reform his character than what it is to transcend empirical individuality. The problem was thus made simpler and reduced to manageable dimensions.

III

The second presupposition is the belief in the expulsive power of knowledge. The ancient sages as well as Buddha took for granted that wordly life, with its implied egoism, selfishness and misery, is rooted in *Avidya*, and that *Vidya* is capable of bringing about a spiritual transformation. By *Avidya* the Upanishads meant, not indeed intellectual privation, but positive knowledge of empirical forms. Correspondingly *Vidya* was defined as intellectual intuition, as direct perception of reality. The intellectual gives a twisted view of things so that the more intellectual we become the farther away we are from reality. Hence scientific knowledge is worse than even ignorance.[7] Real knowledge is acquired neither through instruction, nor through erudition,[8] but only through an act of sympathetic insight.

Buddha did not think it necessary to give a systematic exposition of the nature of knowledge. He did not look upon himself as a philosopher who should propound doctrines, educe conclusions, and offer proofs, but as a reformer whose mission lay in the application of the old teaching to the facts of daily life. Nevertheless, he exhorted his disciples to free themselves from ignorance and to cultivate knowledge. "Buddhists are introduced into the realm of truth by faith, they possess truth only by sight. They walk by sight and not by faith."[9] On occasions when he lapsed into philosophical mood, Buddha made himself very explicit. It was in such a mood that he once told the Bikkus that, while ignorance of the four noble truths and of the three characteristics of the Un-

[7] *Cf. Brihadaranyaka*: 4.4.11.

[8] *Cf. Katha*: 2.3.3.

[9] Poussin, *The Way of Nirvana*, p. 156.

manifest would confine them to the path of transmigration, knowledge of these would effect a sure release.[10]

It was not rational knowledge. "In mere rationality there is no room for truth, though it be the instrument that masters the things of the world." Thus Paul Carus[11] summed up the negative aspect of Buddhist knowledge. All notions are illusions; for they are intellectual products; and in accordance with the derivation of forms, taught by Buddha, intellect is ultimately rooted in *Avidya*. Buddha himself did not use the word intuition, but assumed it whenever he asked men to seek knowledge. He was very fond of saying that mind enthroned in righteousness gives truth. It would seem then that the kind of knowledge which he had in mind is the cognitive factor in righteousness; and it is intuition, direct insight into reality.

In the Upanishads the actual imparting of the higher knowledge was deferred to the very end of a long period of discipleship; while in the case of Buddha's teaching it was not so. The ancient sages were in a privileged position. Pupils sought them, resided with them, and it was only after being gradually prepared that they were taught the secret lore. Buddha had neither a hermitage nor a school. None sought him at first; instead, he went out, like Jesus, in search of lost sheep. It was not possible for him to put men through a course of discipline before imparting knowledge. Even if it were possible, laymen could not have patience enough to undergo a preliminary training in order to gain something of which they could have no idea. Naturally they would ask what it was all about. So Buddha told them what is was about, and then suggested how they should cultivate it, establish them-

10 *Cf. Sacred Books of the East*, Vol. X, Pt. II, p. 148.
11 *The Gospel of Buddha*, p. 230.

selves in it, and make it their own. This explains the fact that in the Upanishads knowledge is the ruling theme, while in Buddhism it looks like a means.

In this context we have to raise a very interesting problem. The Upanishads taught that all notions are illusions, and that knowledge is concerned with reality as such. Buddha accepted these propositions, but instead of adopting them as they were, he gave them a particular character. Throughout his teaching egoism is described as illusion, and it is insistently contrasted with reality. We may be allowed to remark parenthetically that the original word for reality has been mistranslated by many as truth. The opposite of illusion is not that but reality. Be it as it may. Why did Buddha mark out the self for special treatment as if it were the only illusion? In asking this question we are perhaps asking for the very secret of Buddha's teaching. General propositions were propounded in the Upanishads in an admirable way. But Buddha wanted to work them out in life. The only way in which he could go about this was to concentrate attention on the self. Among illusions, egoism occupies a peculiar position. In the first place, it is a term in every illusion, the subject, as it were, of all of them. Destroy it, and they lose all significance. In the second place, the self is the breeding place of every kind of illusion, and there is a great advantage in applying a caustic remedy to the very source of infection. In this manner Buddha adjusted the knowledge which he learnt from the Upanishads to the needs of a programme of life.

IV

It was in the presentation of the supreme end of life as Nirvana that Buddha was most conscious of his heritage. Nirvana is a spiritual entrance into Reality which

comprehends all and which is comprehended by none. The difficulty in grasping its import was foreseen by Buddha himself. While he was resting under the Shepherd's *Nyagrôdha* tree on the bank of the Nairanjana, as depicted in the Arcadian scene in the story of the third temptation, he was taking stock of the situation and working out his plans for the future. Then the fear crept into him that his mission might end in failure; for the worldling might not grasp the meaning of Nirvana, but might, on the other hand, mistake the joy of selflessness for abject surrender, and eternal life for annihilation.[12] This fear has been fully justified by history. Nothing which Buddha taught has been so fruitful of controversies as the idea of Nirvana. Diverse interpretations have been put upon it; and Prof. Poussin[13] has done a service in classifying them under three heads, viz., annihilation, immorality, and "unqualified deliverance." The last is his own view, and the other two belong to Rhys Davids, Childers, Pischel, and the rest, whom he has criticized.

It is neither possible nor necessary in this paper to give an exposition of these views or even to appraise their values. It may, however, be pointed out that their authors have allowed themselves to be carried away by certain undetected assumptions. They seem to have assumed that a reference to conditions after physical death is essential for the full explanation of Nirvana, and therefore they have shifted the venue of enquiry from this life to the other. They seem to have assumed further that there should be continuity of empirical self even after Nirvana has been attained; and this has made them anxious to find out the how and the where of this post-Nir-

[12] *Cf. Mahavagga*: 1.5. [13] *Cf. The Way of Nirvana*, p. 115.

vanic individuality. If it is not there, Nirvana is annihilation; if it is there, it is immortality; if it is there, and if nothing positive can be predicated of it, it is "unqualified deliverance." Neither assumption has any foundation in the teaching of Buddha. In the first place, Nirvana is a spiritual state; to the life of the spirit as such the presence or the absence of a body is not a vital matter. It is not a far-off goal lying beyond the gates of death but a level of life which is attained here and now. Did not Buddha himself declare explicitly, in his sermon at Benares,[14] that he had attained Nirvana even as he was? In the second place, it is enough to observe that any casual student of Buddhism can see for himself that the reality of self, either here or hereafter, is repudiated, in spirit and in letter, in every page of the scriptures.

In one sense, Nirvana is extinction; but what is extinguished is not the fundamental reality of life. "Whenever Buddha denies existence to the Ego, what he is really doing is to deny reality to the individual Ego, to the ordinary surface self."[15] This is not a surmise. When General Simha asked in the most straightforward manner if it was true that he was preaching the annihilation of the soul and the extinction of life's very essence, the master gave the plainest answer[16] that he was preaching the annihilation of egoism and all the evils which issue therefrom, but not the annihilation of love, truth and charity. Again in the course of a sermon he told the Jatilas that a disciple of his should free himself from selfishness and thus attain Nirvana.[17]

Self is the attempt to split reality into incompatible forms. The values it creates in order to consolidate and

[14] *Cf. Buddhacharita,* verses 1217-79.
[15] Holmes, *The Creed of Buddha,* p. 164.
[16] *Cf. Mahavagga*: 6.81.
[17] *Cf. Buddhacharita,* verses 1300-34.

perpetuate itself, are imparticipable and competitive. So long as they are allowed to remain life is a war of each against all. Destruction then is of negative values, particularly of selfishness which is the home of all negative values. In other words, the old Adam has to die in order that the new may live.

In another and real sense Nirvana is preservation of life. In his discussion with Simha, to which refrence was made earlier, Buddha gave the assurance that his teaching was intended to preserve the soul and not to destroy it. On another occasion he told the Brahman Kutadanta that his mission was to teach life and not death.[18] Self is the epidermis of life; scratch it, and you find eternal values within the derm. The pursuit of truth, disinterested service, benevolent affections, the holiness of disposition, love, charity, wisdom, righteousness: these abide forever. In addition to the conservation of values, Nirvana brings with it Abhinna and Idhi—supernatural wisdom and power.[19] The former would appear to be a kind of omniscience, and the latter a kind of omnipotence. When life takes these forms it attains a measure of divinity, and reaches the last degree of spirituality. It then moves on the plane of the eternal. According to the law of evolution taught by Buddha, change and formation are illusory notions created by *Avidya*.[20] When these are removed, life soars to the highest altitude possible, transcending all limits and distinctions. "There is, O Monks, a state where there is neither earth nor water, nor heat, nor air; neither infinity of space, nor infinity of consciousness, nor nothingness, nor perception, nor non-perception; neither this world nor that world; neither sun nor moon. It is the Uncreate. That, O Monks, I term neither

18 *Cf.* Carus, *The Gospel of Buddha*, p. 133.
19 *Cf.* Rhys Davids' *Buddhism*, pp. 173-176.
20 See Section IX below.

coming nor going, nor standing; neither death, nor birth. It is without stability, without change, it is the eternal which never originates and never passes away. There is the end of sorrow." This was Buddha's way of expressing that Nirvanic life is atonement with ultimate reality, whatever be its name—over-soul, Absolute, Brahma, God. It is the sublimation of human life into the divine. It is metalogical; there is neither feeling nor emotion in it. Though, as is often done, it may be asymptotically described in terms of the highest spiritual values known to us, it still remains incomprehensible, baffling the categories of ordinary knowledge.

V

Buddha's discourses on Nirvana remind us naturally of the goal presented by the Upanishads. The culmination of all spiritual discipline, in the view of the latter, is Brahma-Vidya. This knowledge is summed up in the cryptic formula, "Everything is Brahman." Of course it does not fit into our habitual scheme of things. Life as we live it is superficial: it is enveloped by Maya, illusion. Hence the world appears to us to consist of a plurality of separate persons and things; it appears too as the arena on which one thing is pitched against another, and the human self against all the rest. In this way life is riddled with false conceptions, and we are being daily cheated out of reality. But knowledge has a saving grace. When it pervades the mind, the veil of Maya is lifted, appearances vanish, and we stand face to face with reality itself. This is Emancipation.

Like Nirvana, Emancipation is in a sense extinction. All evils, whether they be physical or moral, have their roots ultimately in the false conception of individualities. The world of individuals is a world of conflict. Even the

so-called amity, peace and goodwill, are only forms of truce; because the disposition which makes for war is still there. Individuality tends to separate; to individualise is to exclude; and the greater the attempt to exclude things from one another, the more likely they are to come into conflict. This looks paradoxical; it is none the less true. From the human point of view, to be an individual is to move between two poles, self on the one side and all objects on the other. These objects constitute a system of means to satisfy certain personal interests; they are to be desired or avoided, loved or hated; and in this way their values are determined by their capacity to purvey to human needs. No wonder that they lead to feverish excitements and maddening activities. But when knowledge is acquired life is given a new orientation, desire and pain vanish, activities cease, and egoism is extinguished.

The dead ego is only the stepping-stone on which we ascend to higher life. With the shifting of the old standpoint, the conception of the world undergoes a radical alteration. The well defined physiognomy of things changes, their clear-cut forms coalesce, nay, their very concreteness melts away. The emancipated man sees all things quivering with one life, the same as his; he mirrors everything in himself, and is in turn reflected in it; he recognises his essential unity with the universe and feels one with it.[21] To him the distinctions of mine and thine, friend and foe, higher and lower, animate and inanimate, have absolutely no meaning. He maintains what, in the absence of a better expression, may be called spiritual impartiality. He loves not only his neighbour, but also the neighbour's dog and the plants which grow in his garden. He is patient and self-restrained; and there is about him an atmosphere of repose, calmness and

[21] *Cf. Isa*, 6 and 7.

peace.[22] His being the way of sight and not of logic, his certitude is not assailed by any kind of doubt.[23] He has broken the rough shell of Maya and is serenely contemplating the pearl of Reality.

The condition of atonement is indeed ineffable. It may be called neither existence nor non-existence, neither stability nor change,[24] neither consciousness nor unconsciousness.[25] "There no sun shines, no moon, nor glimmering star; nor yonder lightning; the fire of earth is quenched."[26] It is not to be comprehended, either by the senses or by thought; and weak human language is utterly inadequate to describe it. It is beyond all empirical distinctions; and for this reason it is capable of definite formulation.

A Buddhist reading the Upanishads will be surprised at the similarity between their teaching and that of his master. When he comes to the topic of Emancipation, the surprise will grow into astonishment, for Nirvana and Emancipation are not merely similar but almost identical. Both are spiritual existences to be realised here on earth; both involve the annihilation of the ego and the transcending of ordinary life; in both, permanent spiritual values are conserved, and both are states of atonement with the Supreme Reality. Naturally the suggestion would occur to him that the ancestral home of his own spiritual life is in the Upanishads. If a counter-suggestion were also to occur, that it might after all be a case of the coincidence of genius, he will recall how the utterances of Buddha on the Uncreate tally, word for word, with those of the Upanishads on Brahman. He will

[22] *Cf. Brihadaranyaka*: 4.4.23.
[23] *Chandhogya*: 3.14.4.
[24] *Cf. Brihadaranyaka*: 2.3.1. [25] *Cf. Taittiriya*: 2.7.
[26] *Mundaka*: 2.2.10 (Rendered by Deussen).

recall also how Buddha met two young scholars,[27] Vasetta and Bhawaja, in a mango grove near Kosala; how he pointed out to them that the Brahman priests of those days were not practising what was necessary to gain Brahma-Vidya; and how he assured them that he could put them on the straightest path to the kingdom of Brahman; because he was already residing there and was, as it were, a native of it. These two considerations would clench the argument; and our inquirer would be led to the inevitable conclusion that the voice which spoke of Nirvana was the voice of Buddha, but that the thought was that of the Upanishads.

But in translating Emancipation into Nirvana Buddha gave it a practical turn by emphasising the normal and the psychical aspects of it. The Upanishads, it is well known, were addressed to men who had retired from the world, and who for this reason were not distracted by the needs for action. Relatively speaking, what they suffered from, or thought they suffered from, was a false conception of things, rather than a wrong direction of the will. To them salvation meant the discovery of truth; so they longed for knowledge. This the teachers recognised; hence they laid stress on the perfection of intelligence, and described Emancipation as a kind of higher knowledge. Buddha's atmosphere was altogether different. He had to teach men of the world, men who were more concerned with action than with thought. The will being *dominant* in practical life, Emancipation, in their case, was tantamount to moral regeneration; so the teacher caught hold of their will, gave it the right direction, and explained Nirvana as a kind of moral perfection.

The other aspect which was emphasised by Budhha was selflessness. The men who had gone into forest-

27 *Cf.* Rhys Davids, *Buddhist Suttas*, pp. 157-203.

retreats were mellow with age and experience; and those who were not, were put through a course of special discipline, so that none of them was obsessed with egoism to any dangerous extent. In that situation it was possible for the teachers to adopt a standpoint which was universal, at any rate, not merely human. Therefore Emancipation became the relinquishment of the individualising tendency in general and not the overcoming of egoism in particular. Whether the ancient sages were conscious of the inadequacy of the geocentric point of view in the realm of knowledge, is more than we can say, but they taught as if they were so conscious. How could Buddha do likewise? His men had all the defects of worldliness, to them life was not geocentric, not even anthropocentric, but essentially egocentric. With penetrating insight Buddha realised that, if he could get them to discard selfishness, other good things would follow as a matter of course. This accounts for the fact that he specially argued against the notion of egoism, as if it were the gravamen of the charge. Naturally Nirvana appeared as a state of extinction.

Thus both lead the same goal in view. But the Upanishads gave it the appearance of a theory, stated it is a proposition describing the nature of reality, and advocated it as a truth which ought to be grasped. Buddha, on the other hand, attempted to work it out in life and presented it as a task, as a condition which ought to be reached by ordinary men. He did it in the only way possible, viz., by addressing the will rather than the intelligence.

VI

Brahma-Vidya was the prerogative of a spiritual aristrocracy. As a rule it was not imparted either to a woman or to an outcaste; and even in the case of the elig-

ibles it was laid down as a precondition that they should have fulfilled all social obligations and have then withdrawn from participation in worldly affairs.[28] Life in the days of the Upanishads was one long spiritual discipline; it was divided into successive periods of studentships, of a householder, and of retirement, and each was regulated by strict rules of conduct. It is very likely that those who had lived life in that way looked forward, like Rabbi Ben Ezra, to a glorious old age in the belief that "the best is yet to be, the last of life for which the first was made." It is likely also that they got a vision of something of permanent value, of an eternal verity, dim, vague, nebulous, yet definite enough to attract. Its power must have been so compelling that they determined to pursue it at any cost, even by sacrificing everything which they hitherto cherished most dear. Impelled by this motive they actually renounced the world, went into forest retreat, and there commenced a new spiritual life in a purer atmosphere and on a higher plane.

The sages taught them how to translate the faint vision into vivid reality. The restraint of the senses, the subdual of passions, contentment, endurance, concentration: these were the prescribed means.[29] Some or all of these were emphasised according to the special needs of the disciples. Thus one might need, more than anything else, the subdual of his passions;[30] another, freedom also from distractions;[31] and a third, subdual, freedom, and peace.[32] Sometimes they were described in general terms, as the suspension of the activities of the mind,[33] or as purification of nature by the purification of the in-

28 *Cf. Brihadaranyaka*: 4.4.22; and *Mundaka*: 1.2.11.
29 *Cf. Brihadaranyaka*: 4.4.23.
30 *Cf. Svetasvatara*: 6.22.
31 *Cf. Mundaka*: 1.2.13.
32 *Cf. Katha*: 1.2.24.
33 *Cf. ibid.*: 4.6.10.

tellect,[34] or even as mental serenity.[35] In addition, faith in the end was everywhere presupposed, so much so that it was taken as a separate means in a later Vedantic work.[36] The *Maitrayana* Upanishad summed up all this in one clear statement; "Control of breath, restraint of the senses, attention, discrimination, meditation, and absorption: these are the methods of realisation."[37]

This Upanishad has a peculiar historical value. It came into existence at a time when the atmosphere was charged with ideas prophetic of Buddhism. To us, therefore, it serves as the connecting link between Buddhism on the one hand, and the earlier Upanishads on the other; and to Buddha himself it must have been a source of inspiration more direct than the older ones. It has so much in common with Buddha's teaching that Cowell opined that it might indeed be post-Buddhistic in point of date. Even so it is an argument in favour of the view that Buddhism and the Upanishads are interdependent. But as a matter of fact it was anterior to Buddha, as has been convincingly proved by Max Muller.[38]

The *Maitrayana* was also the main basis of Patanjali's *Yoga-Sutras*. Patanjali lived after Buddha; and some of his fundamental conceptions are patently Buddhistic. And yet, astonishingly enough, he claimed the authority of the Upanishads for his teaching. In his view there was nothing extraordinary in incorporating the teaching of Buddha in a work which was explicitly intended to give a practical turn to the ideas taught in the Upanishads. This lends a powerful support to the views adopted in this paper. Be it remembered that *Yoga* is one of the orthodox systems,

[34] *Cf. Chandogya*: 7.26.2.
[35] *Cf. Maitrayana*: 6.29.
[36] *Cf. Vedantasara.*
[37] *Maitrayana*: 6.18.
[38] In *Sacred Books of the East,* Vol. XV, pp. xlvii-li.

which has had a widely formative influence on Hindu life and thought.

To return to the methods. To be able to understand and to appreciate them, it is necessary to have some notion of the metaphysical psychology from which they were but practical deductions. It would appear that man consists of a *purusha* and a *prakriti,* i. e., soul bottled up in world-stuff. While the former is static, change is inherent in the latter. Originally the *purusha* was independent of *prakriti.* But something happened—we need not inquire what; and the mischief started. *Prakriti* began to evolve, first into a sort of sub-consciousness; next, into consciousness in its dual aspect of subject and object; then, in divergent channels, into the sensorium commune called mind, into the five organs of action, into the five sense organs, into the various kinds of protomatter; and, finally, in a linear direction from protomatter, into the gross matter of which the body is composed. It is *prakriti* which really sees, thinks, and feels; grows or decays; laughs at a joke or weep tears. These are reflected in the soul, and the poor thing deludes itself into the idea that all this really belongs to it. In a weak moment the Prince drinks himself away into intoxication and forgetfulness; and under the delusion that he is really poor, he goes about the street begging from door to door. The soul has fallen from a high estate and allowed itself to be caught in the wiles of *prakriti.*

But the seers prescribed a heroic remedy. *Prakriti* could be turned back the way it came, and the soul could be restored to its original glory. To control breath, senses, and mind is to involute them into their undifferentiated condition in consciousness. The result is that the external world disappears altogether. Nevertheless, will it not come back in the shape of images? But then we

forget that mind is a sensorium commune, and that the control of it is the control also of the sensory areas of the brain. In the language of autosuggestion, it is the state of the full outcropping of the subconscious. Consciousness grows by what it feeds on; and when all its objects have been removed it shrinks almost into nothingness. In this state some ideas may come and go and thus disport themselves in imagination. If at this juncture the subconscious is directed towards Brahman, it would attend to it exclusively as though wanting to monopolize it. This is what the Upanishads mean by discrimination. But Brahman has no form and cannot be presented as an idea or image. The difficulty is overcome by substituting a symbol. The word *Aum* has no meaning in particular; for this reason it is eminently fitted to represent Brahman. The symbol has thus a dual function; it serves to focus attention and it is also the gateway through which Brahman is reached. It is important to remember that meditation is not on the symbol itself but on its significance. As meditation progresses, the symbol vanishes in the background, and what is left is a deep, dead silence,—the soul in communion with Brahman, or, what means the same thing, in communion with itself. Life in this condition is disembodied spirit, and it is described as pure freedom and unconditioned bliss. *Prakriti* has been rolled back, distinctions and limits have been transcended, the old delusion has gone; and the Prince has come to his own. After emerging from this experience the individual finds a new significance in the facts of daily life. It is in this manner that self-control and self-direction are used to attain oneness with the universe. "There is not leather enough to cover the surface of the earth to make it smooth. But put on a shoe and the whole earth will be smooth."[39]

[39] *Path to Nirvana*, p. 152 (Barnett, quoted by Poussin).

VII

Buddha was a spiritual democrat. He did not contemplate the exclusion of any from discipleship. Nirvana should be the privilege of all, the caste Jew as well as the outcaste Gentile, man as well as woman. He was not particular about the renunciation of the world on the part of the seekers, though he retained it as an essential condition for admission into the higher fellowship of the Sanga. Nor did he insist that they should have fulfilled the round of duties prescribed by the Brahmanical canons, for to insist on this would amount to telling them that they could not enter into the path till they were fifty or sixty years of age; moreover, there was no sense in requiring them to be good already, when his plan was to transform their lives. Good conduct would come as a stage in realisation rather than as a condition for admission. The doors were, therefore, thrown wide open; no questions were asked; and whosoever came was admitted.

However, it was in the treatment of the methods that Buddha's teaching came out most distinctly as a programme of life. The methods, as they stood in the Upanishads, were deficient on the practical side: they presupposed a high degree of spirituality in the disciples, and also a peculiarly secluded atmosphere; worse still, they were abstract and sketchy, and could be used only in the immediate presence of a teacher; and the worst was that they were intended to be taken together, and applied in a single sitting, to bring about the highest spiritual condition, as it were, in one sweep. How could Buddha accept them as they were? His disciples were a heterogeneous lot,—carpenters, weavers, husbandmen, and so on. Most of them had to begin spiritual life at the bottom. They did not have the quietness of a secluded life, or the immediate guidance of a teacher. They would make a mess of

the whole affair, unless they were told in concrete terms what exactly they had to achieve. Further, their lungs were not powerful enough to breathe the rarified atmosphere of dizzy heights before being accustomed to lower altitudes. In other words, they needed a programme of life, spread out in time and divided into manageable stages, so that they could live it out step by step, each step leading to the next higher, gradually, naturally, and with ease. In the light of these considerations Buddha applied the old methods in an original way, without in the least impairing their integrity.

Buddhaghosha's Visudhimagga, a compendium of orthodox beliefs, gives an exposition of this programme under two heads, *sila* and *samadhi.* The former is a preliminary discipline, and it occupies one stage; while the latter forms the main part of the programme, and it is worked out in four stages. In the Upanishads empirical reality is conceived progressively as physical, as organic, as mental, and as conscious; accordingly spiritual life consists in a successive criticism and refinement of these conceptions. On the other hand, Buddha recognised that corresponding to these conceptions there are different kinds of lives; in his view, therefore, the path which leads to Nirvana is the path of reformation. At every stage of it one kind of life is attended to, and by means of a particular method, it is overcome and the next higher life brought into being. This is the programme. In the first stage, self-control keeps the individual on the plane of ordinary morality; in the second, faith weans him out of the desire for material goods; in the third, he practises breath-control, and ceases to have any relish for mere living as such; in the fourth, he subdues the passions and lives a life of love; and in the last, concentration raises him even above consciousness, and he realises his oneness with the

universe. It is in this manner that the standpoints of materialism, of realism, of idealism, and of the intellect itself are successively transcended, and an ascending scale of life built up.

Sila is conduct. It includes overt action as well as the disposition from which action issues. In order that it may continue to be good it should be something more than mere intention. Whether hell is paved with good intentions is more than one can say; but there is no doubt that the path of many a failure is strewn with them. Like any other idea, intention is dynamic, and if it does not come out in action, it is because of certain impedimental tendencies. The failure of intention, and it may be added, much of the evil in conduct, arises from impulsiveness. More than half the criminals in the world belong to the impulsive variety. Examined more closely, impulse is seen to have its genesis in perceptual attractions, oversensitiveness, impatience, and thoughtlessness. The impulsive man flings the reins away, and abandons himself to the mad careering of animal propensities. To check the impulses, that is to say, to exercise some control over the senses, to develop a certain amount of indifference to unpleasant situations, to cultivate a little of patience, and to be occasionally mindful of the other side of the question: these would appear to be, in Buddha's view, the essential means by which life is maintained at the moral level. Through *Sila* the individual controls and organises the mind, and thus keeps himself in the path of rectitude.

Disciplined in this way he enters into a life of faith. Faith leads to meditation. As he practises it from day to day he feels the presence of Buddha more and more, first as an idea, next as an influence, and then as a living reality. Occasionally he sees a vision; gradually it becomes

more and more vivid; and every time it brings the same figure clothed in the same rags and holding the same beggar's bowl. The vision haunts, and our inquirer is stirred with questionings. Why did the prince exchange a kingdom for a beggar's bowl? Why did he discard royal robes and put on rags? Does he hunger and thirst as other men do?

Thinking on these things he grows into them; the message of poverty has gone home; and Buddha has conquered. The outlook of the disciple changes, and life acquires a new significance. Pleasure palls, and he develops an aversion to his old life. Food, drink, and worldly possessions: how vulgar and nauseating they are! Yet how much of energy is spent in their pursuits; what competition, worry and travail! How sad to think that the spirit is being immolated daily at their altars! How humiliating to contemplate that man forgets the high destiny to which he is called, and transforms himself into an animal to wallow in filth and mire! And what of the dear thing called his body? A putrid mass of flesh and bones, so frail that it needs constant repair, and so perishable that nothing can save it from decay and dissolution! Yet what a great value is attached to it, as if it were an idol cast for eternity! Not for him this life; henceforth he would live as if he has no body; in competition he would be generous; and what he accumulated he would give away.

This aversion is not enough. Freud notwithstanding, of all the instincts the strongest is the instinct to live. It is the goddess of strife incarnate in the individual, it is the principle of dehumanisation in man, and it is the root of struggles. So long as it is not kept well under control, not completely eradicated, spiritual life is not possible. Therefore the seeker begins to practise breath-control.

Breath is life, at least symptomatic of it, and the control of it is the control of life itself. When he has advanced far enough in this, he gets a queer experience: he can bring about all symptoms of death and yet be alive. Thus he discovers that real life, though veneered by physical vitality, is something more subtle and elusive. He has yet to give this knowledge a concrete, objective expression. At the sight of actual death, he still feels a sadness and a regret. These sentiments are overcome only by the formation of a habit of indifference. To this end he makes constant excursions to the crematory, and daily witnesses death and the funeral pyre. Friends and foes, relatives and strangers, rich men and poor men, go in regular procession to inevitable death, and the voracious fire swallows them all. But yesterday his neighbour was healthy, strong, and powerful, and today *hic jacet!* Not even that. There is no stone to mark the spot where he lies, for he has been burnt away, and the ashes sent down the sacred river, to be conveyed to the ocean, there to be dissolved—symbolic of the fact that he has merged himself in the Great Ocean of Life. Our friend has become wiser for his weird experience, and he has realised that to live, in a true sense, is not merely to prolong one's physical existence. He has pitched life one stage higher.

He has still a far way to go. The virtue that he has acquired is of a parochial sort. It is confined within definite geographical limits, and is governed by considerations of race, nationality, and creed. Thus confined it remains crippled and defective. In the eyes of the world, he is a good man, but real goodness he has not attained. After all, the world's view of these things is superficial. Love the members of your family; be a friendly neighbor; discharge your civic duties; do not violate conventional rules; for the rest, your morality may go holidaying; and,

to be sure, the world will credit you with enough goodness. To be good, in the highest sense of the term, means to extend the range of obligations everywhere, unconditionally, without limits, without stint. Unfortunately, however, there is a vein of Hellenism in almost every man, which makes it difficult for him to extend the application of his virtues beyond his own particular Hellas, physical and mental. Moreover, crippled virtue contains a radical evil. There are circumstances under which it casts a dark shadow; and the bulk of the shadow is proportional to the density of the original. War-time patriotism is a prominent example: the more patriotic a man is the greater is his readiness to kill and be killed. Certainly there is something fundamentally wrong in conduct which is hailed as virtuous on one side and at the same time as vicious on the other. Shadowless virtue is possible only in the meridian of goodness. This is attained by lifting the veil that blinds the view, by pulling down all partition walls, and by visioning an ideal immeasureably great. Love friends and foes alike; have compassion for even those who do not seem to deserve it, namely, the powerful and the rich; work loyally and sincerely for the happiness of all; give thine own dear self a seat in a back row; these are the commandments of Buddha's universal spirituality. They are graces which flow freely from the human spirit, but are inhibited by lust, anger, cupidity and ambition. To curb these is to help the spirit live. It is for this purpose that the control of passions is advocated at this stage.

By the time the seeker gets to the final stage, he has attained a high degree of spirituality. But the self is still there, and in contrast with it the world is still an other, separate and distinctive. It may be kept in the background, its activities suspended, but it is there. As long

as it is allowed to remain separate there is the possibility of mischief. To do away with its separateness is to transcend consciousness itself, and this is achieved by the method of concentration and of higher meditation. The methods used earlier are applied again, and it is only after they have brought about mental collectedness that concentration has to enter. Any object will serve to focus attention. In the Upanishads, it is the Syllable *Aum*: here it is a tiny ball of earth. As the process advances, the concrete object is removed and attention is directed to the representation of perfect spiritual life,—universal love, universal good-will, universal pity, absolute disinterestedness. It is not without significance that this meditation is called *Brahma-Vihara,* i. e., the temple of Brahman. The mind, in the ordinary sense of the term, becomes absorbed in it; the distinction between the ego and the non-ego vanishes; and the highest degree of life is attained. The human spirit has become one with the universe; it is at-one-ment, Nirvana.

VIII

Apart from the goal and the methods by which it is attained, even the organisation and regulation of religious life in Buddhism are based on the life and teaching advocated in the Upanishads. The *Vihara* is a convenient edition of the hermitage; and the *Sanga,* i. e., the brotherhood of monks, is a practical version of the fellowship of the sages in the forest. The renunciation of the world and the three vows required of a candidate for ordination, are, if at all, but slight variants of the renunciation and the vows demanded of a man before he takes to the life of an ascetic. The rules which Buddha established for the monks and nuns seem to be but reproductions of the rules laid down in the Upanishads for the conduct of ascetics.

"Absolute continence; no private property; a very strict regime which . . . seems very favourable for moral mortification while avoiding any corporeal pain; the life of a wandering mendicant during the dry season, and during rains, a cenobitic life with all the mutual concessions and admonitions this life implies. On the whole an aristocratic form of asceticism, very much resembling the asceticism of the Brahmins."[40]

IX

The two teachings agree even in such a fundamental matter as the conception of reality. Everything is Brahman; Brahman is Soul: these two propositions sum up the view of the Upanishads. It is not Idealism. Idealism makes no distinction in kind between reality and appearance; it explains everything in terms of consciousness; and in it there is always the distinction between the knowing subject and the object known. Even when some form of Idealism, like that of Kant, distinguishes soul from consciousness, it is not treated as a foundational concept, and it therefore remains inoperative for purposes of explanation; and when reality as such is also posited in contradistinction from phenomenon, it is shelved back into the region of the unknown. In the Upanishads, on the contrary, there is a fundamental distinction between reality and phenomenon; the latter is explained in terms of consciousness and is condemned as an illusion, while the former is described in terms of a superconscious entity called Soul; and, what is more important, no dualism of any kind is tolerated, no opposition between the ego and the non-ego, the knower and the known. Reality is one, and there is no second real; it is beyond limits, beyond distinctions, beyond consciousness; it is nothing in particular, but it is the basis of everything that exists. As the cosmic prin-

[40] Poussin, *Path to Nirvana*, p. 149.

ciple, it is called Brahman, and, as the psychic principle, Atman.

Buddha too held this view. That he did not give any formal exposition of root-conceptions, is obvious; that he adopted the human point of view necessary in practical life, is admitted; that he attended mainly to reality as disclosed in selflessness, is also undisputed. Nevertheless there are enough utterances of his which bring out his conceptions most clearly. All things are one in essence, as pots and pitchers are in essence clay, and they progress towards one goal, namely, Nirvana. To attain Nirvana is to know that all things are one, and then to live accordingly. This is what Buddha told Kassapa.[41] What is the nature of the real? This question was put by one of the followers of General Simha to Buddha himself; and the answer was that everything is spiritual, even what is perceived by the senses. However, it was Aswaghosha, a later Buddhist philosopher, who systematised the master's views in what has come to be called by the infelicitous name of the doctrine of Thatness. "All things in their fundamental nature are not nameable or explicable. They cannot be adequately expressed in any form of language. They possess absolute sameness. . . . They are nothing but one soul—thatness. This "thatness" has no attribute . . . it is the pure soul that manifests itself as eternal, permanent, immutable."[42]

And what of the phenomenon? In the view of the Upanishads all forms of empirical reality are labelled by one epithet and condemned as Maya, illusion. To talk of change and causality, of plurality and distinctions, is to talk of something which does not really exist. Thus the objective world, the individual self, and even the personality of god, are illusions which man cherishes in vain.

[41] *Cf. Dammapada,* Ch. V.
[42] Dasgupta, *A History of Indian Philosophy,* p. 130 f.

Maya has various aspects. Objectively, it is illusion; in respect of knowledge, it is Avidya or nescience; and from the point of view of origins, it is Prakriti or power inherent in Brahman. Very well; but what is the constitution of the empirical world? How account for this riot of forms? Even as illusion the world appears to possess an order. Further, common-sense would predilect in favour of life that it sees. Why should it be asked to give it up? What is wrong with it? These are questions which will naturally occur to every one. The Upanishads do not seem to attach importance to these questions; at any rate, in comparison with the attention bestowed on the positive side of the teaching, the explanation of phenomena seems to be practically neglected. It was centuries later that Gaudapada handled the problem in the interest of orthodox Vedanta; but he was much influenced by Buddhism, if he was not actually a Buddhist. It was Buddha who made the first attempt in the direction of an explanation; and his teaching in this respect forms a valuable supplement to the teaching contained in the Upanishads.

In his view also, empirical life has the status of only a dream. Somewhere and somehow nescience supervened and the process started. The dream-pictures, however, maintain an order of succession. It is to explain this order that Buddha correlated the ideas scattered in the Upanishads, and fused them into a doctrine of the evolution of forms, i. e., a process of successive differentiation. A vague activity; the emergence of consciousness, with its dualism of subject and object; thereafter the crystalising of mental and material forms; the various fields of sensation; sense-feeling; hedonic feeling; the association of this with objects; the desire for them; the conservation of this desire in the organism, giving it a particular inclination; re-birth, decay, and death. Thus the self and

the world have evolved together as two correlative terms. After they have come into being they sustain each other; the mind thinks as the world is, and the world behaves as the mind thinks. This dependence was explained, later, by Aswaghosha and Asanga, in the manner of idealism.

Why not accept the world as it is? Common sense agrees with James in thinking that life as we see it is worth living. Buddha dissents. He seems to think that the question involves large issues. Eternal values are at stake, and the very reality of higher life is challenged. How can a phenomenon satisfy the demands of reason? It is an aggregate of parts, and what is aggregated may also be dissolved. It is transient—one form now, and another the next moment. It has no identity,[43] for it is ever shifting. After all a thing is what it does; and if its effects are ever changing, there is no way of describing it in terms of any predicate. It may even be that it involves contradictory predications.[44] Further, it is a world of clashing individualities. How can it be the home of universal love? It is full of evil and sorrow. How can it be the expression of bliss? All that is highest and the best in man demands that it should be treated as only mimic reality.

This is not pessimism. Pessimism is made of weaker stuff. Even complacent optimists are not satisfied with the world as it is. They would have us believe that, in spite of much that is ugly, evil, and irrational, the world is sound at heart. In this way their optimism is allied to a deeper view of things. It is so with Buddha. Life as it really is, not as it merely appears, is worth living. It alone answers to our highest ideals. It is in Buddhism, in the Upanishads, and also in Christianity, if by this is meant the teaching of Jesus, and in no other religion or

[43] *Cf. Sacred Books of the East,* Vol. XXXV, pp. 83-85.
[44] *Cf.* Dasgupta, *op. cit.,* p. 160.

system of philosophy, that the conception of the fundamental reality of the universe is in perfect accord with the conception of the highest ideal of man.

Buddhism has been woefully misunderstood. It is a system of rationalism, says one; no, it is a system of morality, says another; a third joins issue and calls it a system of religion; how can it be so, since it is atheistic? asks a fourth. "An inadequate knowledge of Indian mysticism . . . is responsible for the confusion that is implied in such a view," explains Professor Poussin.[45] And he concluded his Hibbert lectures by an allusion to a beautiful confession: "I venture to think that it is worth while to consider anew these important and controverted points. . . . My late friend Cecil Bendall willingly confessed that the only means to a right understanding of a religion is to believe in this religion."[46] Bendall must have been a noble soul; and his confession should search many a heart and be a warning to many a complacent scholar. But one need not be a professed Buddhist to understand Buddhism. An openness of mind, a sympathy of understanding, and sufficient acquaintance with the teaching of the Upanishads, are conditions sufficient, for practical purposes, for adequately grasping the teachings of Buddha.

"The Upanishads are to my mind the germs of Buddhism," declared Max Muller, "while Buddhism is in many respects the doctrine of the Upanishads carried out to its last consequences. In doctrine the highest goal of the Vedanta and the knowledge of the true self is no more than the Buddhist Samyaksambodhi; in practice the sanyasin is the bikshu, the friar, only emancipated alike from the tedious discipline of the Brahminic student, the duties of the Brahminic householder, and the yoke of useless penances imposed upon the Brahminic dweller in the forest.

[45] and [46] *Path to Nirvana*, p. 167.

. . . In fact there is no break between the India of the Veda and the India of the Tripitaka, but there is an historical continuity between the two, and the connecting link between extremes that seem widely separated must be sought in the Upanishads."[47]

When the two are examined it would become more and more evident that the Upanishads taught a theory of life and Buddha a corresponding programme.

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[47] *Sacred Books of the East*, Vol. XV, lii.

NOTES AND NEWS

The sum of $10,000 has recently been granted to the American Philosophical Association by the Carnegie Corporation of New York City for the preparation of a series of *Source Books in the History of the Sciences* under the general editorship of Professor Gregory D. Walcott of Hamline University, St. Paul, Minn., assisted by the following men:

Wilmon H. Sheldon	Philosophy	Yale
William P. Montague	"	Columbia
Morris R. Cohen	"	College of City of N. Y.
Edward G. Spaulding	"	Princeton
Arthur O. Lovejoy	"	Johns Hopkins
George H. Mead	"	Univ. of Chicago
Harold C. Brown	"	Stanford
Frederick Barry	Chemistry	Columbia
Joseph S. Ames	Physics	Johns Hopkins
Harlow Shapley	Astronomy	Harvard
Alfred M. Tozzer	Anthropology	Harvard
David Eugene Smith	Mathematics	Columbia
Edwin G. Conklin	Zoology	Princeton
R. T. Chamberlin	Geology	Univ. of Chicago

The several volumes, as planned, will present the most important contributions of the most eminent scientists from the Renaissance to the present. Seven different fields of science, as indicated above, are being covered by special committees of prominent scientists, and volumes will appear, it is believed, on the average of one each year. The first volume on astronomy, under the supervision of Professor Harlow Shapley of Harvard University, will be ready for publication within the next few months.

SOME RECENT BOOKS

Constructive Citizenship. By L. P. Jacks. New York, Doubleday, Doran and Company, Inc., 1928. Pp. vi+300. $2.00.

Space-thinking, with its emphasis, in social philosophy, upon structures, programs and platforms, is in this volume sharply contrasted with time-thinking, which stresses the spirit or life immanent in our social order. Moreover, exception is taken to those who focus their attention upon the diseases of society and then undertake to prescribe remedies. The graver the disorders alleged, the more should we realize the vitality of the order that has nevertheless continued to survive. Might we not do better to discover the sources of strength and then seek to reinforce these in the faith that the evils will in consequence be thrust aside? What Principal Jacks finds and would develop are skill, trusteeship, and scientific method. Man today, he holds, is foremost an "industrial individual" and only secondarily a "political being." His primary right is a right to bear and fulfil responsibilities; he should be given an opportunity for the intelligent and devoted exercise of skill in the world's work.

A Letter To a Friend. Anonymous. Chicago, The Open Court Publishing Co., 1928. Pp. 115. $1.00.

This "Letter," as unusual in its literary quality as it is fascinating in its content, graphically describes a mental crisis in the life of a Princeton student, the "revelations" he experienced, the disastrous results of tactless attitudes from which he suffered, his recovery of nervous equilibrium, and his subsequent marriage to the "elusive 'divinity' twelve years after her apotheosis" in the critical college experince. Students of psychology and of religion, and those interested in problems of mental health, will heartily welcome this unusual but illuminating bit of personal history.

The Philosophy of Personalism: A Study in the Metaphysics of Religion. By ALBERT C. KNUDSON. New York, The Abingdon Press, 1927. Pp. 438. $3.50.

A clear-cut differentiation of the various forms of personalism is here followed by an admirably lucid account of the theory of knowledge, the theory of reality, the religious implications, and the militant relations to alternative doctrines of a type of personalism defined as "that form of idealism which gives equal recognition to both the pluralistic and monistic aspects of experience and which finds in the conscious unity, identity, and free activity of personality the key to the nature of reality and the solution of the ultimate problems of philosophy." The author exhibits but little zeal to turn his logical searchlight upon the difficulties of his own position—but philosophers very often have their affections and their causes even in the realm of doctrine.

Forms of Individuality: An Inquiry Into the Grounds of Order in Human Relations. By E. JORDAN. Indianapolis, Charles W. Laut & Company, 1927. Pp. ix+469. $3.75.

This book arose from a conviction that the confusions in the social and political relations of men are due to an inadequate understanding of the principles common to the various social sciences. Professor Jordan regards a practical philosophy as supremely important, indeed as the indispensable condition of further cultural and institutional progress. The needed philosophy is not identified with a group of platitudes or with a body of scientifically or experimentally derived truths. It is conceived as obtainable only through the arduous labor of speculation, utilizing logical and experiential methods. Such labor the author has not shunned, and, though he has not made easy for his readers the path to his own insights, he has rewards for those who will pursue their quest under his guidance.

Die sittliche Tat. By HANS DRIESCH. Liepzig. Verlag Emmanuel Reinicke, 1927. Pp. xi+210.

Referring for fuller treatment to his *Ordnungslehre* and his *Wirklichkeitslehre,* Professor Driesch first presents under the heading of "Prolegomena," brief remarks on the meaning of such phrases and terms as "it ought to be," "ought and is," duty, moral intuition, value, and moral pleasure. The bulk of his book is devoted to what he calls *Morallehre,* that is, to a portrayal of ethically required or permissible action in the concrete affairs of life. About one-third of the entire volume deals with duties toward groups, and of this section all but six pages relate to duties toward and of the State. Wars, even those ordinarily called defensive, are unqualifiedly condemned. The basis of morality is found in the religious attitude, with an account of which the book closes, the last words expressing what the author conceives, granting the reality of freedom, to be morality's ultimate requirement: *"Habe den Entschluss zur Vernunft?"*

The task of the philosophical ethicist, we are told, is to bring norms to light; that of the statesman is the much more difficult one of actualizing such norms. Intermediary is the important role of the teacher in the broad sense of this term, of the clergyman, the journalist, etc. He must disseminate the moral doctrines of the ethicist, and it is to him in particular that Driesch addresses himself in this his latest publication.

How We Behave: An Introduction to Psychology. By A. E. HEATH. London, Longmans Green & Company, Ltd., 1928. Pp. vi+90.

This little volume, one of a series arranged by the Worker's Educational Association, may be most heartily commended for its scrupulous scholarship and its fine philosophical perspective. Five chapters exhibit the nature, aim and subject matter of psychology, and the development both of animal and of human behavior. The account is not merely intelligible but refreshingly intelligent; it is alike informed and critical.

Political Pluralism: A Study in Modern Political Theory. By K. C. Hsiao. New York, Harcourt, Brace & Company, Inc., 1927. Pp. viii+271. $3.50.

To Professor Hsiao we owe a valuable constructive criticism of those political theories which hold that "there exists no single source of authority that is all-competent and comprehensive, namely sovereignty, no unified system of law, no centralized organ of administration, no generalization of political will." Political Pluralism is described as in part a protest against views that fail to take account of changed conditions in our social order. The value of these protests is carefully examined, as are also the positive solutions advanced by the pluralists. These pluralistic theories are considered valuable for their emphasis, as against an abstract monism, upon individual freedom, the role of restricted groups of various sorts, the insistence that the political process includes "not only government and law, but all social relations between men as many-sided moral beings," and the warning against the paternalism and absolutism of the political State, as well as against the sovereignty of any partial institution. But all of these points, the author insists, are recognized in the more developed and concrete monistic views, as, for example, in those of Hegel.

The Ethics of the Hindus. By Sushil Kumar Maitra. Calcutta, Calcutta University Press, 1925. Pp. xvii+344.

On the basis, largely, of the original sources, this thorough study by Mr. Maitra presents an analytical, as distinct from an historical, account of the chief systems of Hindu ethics. Attention is centered upon their analyses of volition and of conscience, and upon their classification of the springs of action and of the virtues; special problems are given consideration (such, for example, as "will as selection and will as rejection," "the relationistic conception of willing") and syntheses are attempted of ethical disinterestedness with prudentialism, of externalism with the ethical conception of duty, and of objective with subjective rightness; the ethico-spiritual ideal of *moksha*, or emancipation, is portrayed, as is its realization, *mokshasadhana*. A valuable appendix describes the moral standards in Hindu ethics, though here, as elsewhere throughout the volume, the Jain and Buddhist systems are designedly omitted except for occasional references.

Philosophy Today: Essays on Recent Developments in the Field of Philosophy. Collected and edited by Edward Leroy Schaub. Chicago, The Open Court Publishing Co., 1928. Pp. x+609. $3.75.

The editor of this volume solicited from representative European and American scholars critical surveys of publications and thought trends in the main fields of philosophy especially cultivated by various linguistic groups since about the outbreak of the Great War. The co-operation of thirty philosophers has made possible an authoritative account of the dominant ideas of today in the countries of English, French, German and Scandinavian speech, and in South America, and in the domains of logic and scientific methodology, ethics and social philosophy, aesthetics and the philosophy of values, the philosophy of religion and metaphysics, psychology, pedagogy and the history of philosophy. The material is carefully organized, and it is presented in English and in attractive, worthy dress.

The Point of View. Edited by Catherine E. Cook. Chicago, The Open Court Publishing Company, 1927. Pp. xiv+211. $2.50.

Through carefully selected passages from his writings as a whole, the characteristic viewpoint of Paul Carus has now been set forth by one who was associated with him for a decade in his editorial labors. The selections are organized under heads that represent the chief problems of philosophical inquiry, and they are supplemented by a complete bibliography of the publications of Paul Carus. In dress the volume finely displays the powers of the modern book-maker.

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THE MONIST

THE SEARCH FOR CERTAINTY

PHILOSOPHY, which is the love and hence the pursuit of wisdom, needs some criterion of truth. For if we cannot recognize the truth when we see it how shall we attain to knowledge? You may indeed tell me—and the history of philosophy is there to bear you witness—that truth is unattainable. But, in the first place, if it be unattainable the sceptic cannot attain to the knowledge even of this. And, secondly, if we do not know what truth is the sceptic cannot affirm with certainty that what we have will not stand the test. The contradictions into which scepticism thus leads us are evidence that it cannot be true. But the sceptic would probably welcome this conclusion. If truth cannot be attained, then what even he seems to know must needs be false. And, for all our logic and protestation, the history of philosophy stands, to the unsympathetic observer at least, as irrefutable testimony to the sceptic's contention. Perchance, however, it is Truth with a capital T which is unattainable. Truth of a less ambitious sort may be within man's reach. To discover whether this is so let us consider some of the criteria which have been proposed.

Modern philosophy, up to and including Kant, is the history of the attempt to explain knowledge on the triple hypothesis that ideas and reality are separate existences; that first hand knowledge is of 'ideas,' *i. e.*, of experience,

only; and that, therefore, of reality we have only an inferential sort of knowledge or faith. Upon this dualistic metaphysics is based the view that truth lies in the correspondence of ideas to reality. A specious plausibility is given to this view by the everyday experience which we all share that we can and do compare our descriptions with the things they are intended to describe and test our theories by observing the facts they are intended to explain. But when I compare my memory image, say of Milan Cathedral, with a reliable copy or the original and find that I have correctly remembered but few details, or when I test a theory by observing facts, both terms in the comparison are actual or possible objects of observation. On the dualistic hypothesis, however, one of the terms, reality, namely, can never be observed and hence the comparison can never be made. Now the unworkability of this criterion should have led, one would have supposed, to the conclusion that the premisses on which it is based are probably wrong. But by none of the major philosophers from Descartes to Kant was this conclusion drawn. It remained for post-Kantian philosophy to affirm that in experience we are in immediate contact with reality. Two schools of thought have made this affirmation most unambiguously, Hegelian or objective idealism and the new realism.

We must be careful to distinguish subjective from objective idealism. Strictly defined, subjective idealism would affirm that ideas or mental states are subjective, *i. e.*, by implication, unreal, and yet that they only exist, are, therefore, the only reality. Now this position is obviously untenable and it need not be affirmed that there are any strictly subjective idealists. Berkeley does not deny a reality other than ideas; he merely affirms that this reality is spiritual not material, that our ideas of matter have God as their cause and not physical things. Nor is Hume a strict

subjectivist. Although he affirms that the only 'body' we can know is the collection of our impressions and the only 'mind' we can know is the collection of our ideas, he does not deny the existence of reality beyond experience, he merely denies the possibility of making any affirmation about it.

Now objective idealism avoids the subjectivist dilemma of affirming that ideas are unreal and yet that they are the only things that exist, by affirming that what the pre-Kantians called 'ideas' are reality itself. This is not to affirm that there is no reality other than momentary experience, but that in momentary experience we are in immediate contact with reality itself and not with mere copies thereof.[1]

The new realism affirms a very similar doctrine, viz., that ideas are nothing more nor less than reals functioning in a conscious complex. There is nothing, it is argued, to prevent an entity taking its place in both the physical and the mental series. In the one context the real becomes a physical object, in the other, mental; but it is in both cases the same entity, and in itself is neither physical nor mental but neutral.[2] On this issue then objective idealism and neo-realism are agreed, that idea and reality are one and the same, that the content and the object of knowledge are numerically one. If English neo-realism retains the first of the Cartesian premisses, namely the separate existence of knowledge and reality, it is only the act of knowledge, pure consciousness, which is thus left subjective. The content of knowledge and the reality known are recognized as one and the same.

It would be wrong, however, to suppose that neo-realism, any more than objective idealism, identifies reality with the momentary content of consciousness. "By virtue

[1] See John Watson, *The Intrepretation of Religious Experience,* II, p. 61; Hoernle, *Idealism as a Philosophy,* pp. 66 f.

[2] See Edwin Holt, *Concept of Consciousness,* pp. 126 f.

of the fact that the knowledge system . . . trans-sects the system known, at various and sundry places, it results," says Holt, "that the two systems are partially identical: yet they are still two because they are not wholly identical."[3] And idealism, in its theory of degrees of truth and reality, is affirming much the same thing, that in so far as knowledge is identical with reality it is true, but that this identity, and therefore this truth, are matters of degree. The subjectivity of knowledge, then, as neo-realist and objective idealist are both agreed in maintaining, does not consist in a total difference between what is known and reality, but in the limitation of what is known to a part of reality. But to the question, How is this subjectivity, this limitation, to be escaped?, they give different answers. On the old issue between idealism and realism whether ideas or things are real, agreement has been reached,[4] only to give way to a new issue—as to the best method of attaining to a knowledge which shall be free from the illusions and foreshortenings that are due to the limitations of immediate experience. What is the road to certainty? Neo-realism has chosen the path of analysis and objective idealism that of synthesis.

"The essence of philosophy," says Bertrand Russell, "is analysis, not synthesis. To build up systems of the world, like Heine's German professor who knit together fragments of life and made an intelligible system out of them, is not, I believe, any more feasible than the discovery of the philosopher's stone. What is feasible is the understanding of general forms, and the division of traditional problems into a number of separate and less baffling questions. 'Divide and conquer' is the maxim of success here as elsewhere."[5] The protest of the American neo-realists, in their co-operative volume, against the idealistic fallacies of 'pseu-

[3] *Op. cit.*, p. 238; *cf.* p. 251.

[4] The Critical Realist is not party to this agreement.

[5] *Mysticism and Logic*, p. 113.

do-simplicity,' 'initial predication,' and the like,[6] is couched in the same spirit. They maintain, however, that analysis does not, as its critics allege, destroy its object, for, although it reveals parts, by that very process, as Spaulding points out, "it also reveals the relations which relate and so organize these parts into some kind of whole." "A toy is not identical with the collection of the fragments into which it has been shattered, but it is identical with these fragments in that particular arrangement which has been destroyed." Not only then is it claimed that analysis destroys nothing, but it is offered as the only method whereby subjectivity is to be avoided. "If simples are independent," says Professor Perry in the same volume, "it follows that knowledge escapes subjectivity in proportion as it carries analysis through to the end. . . . If the knower desires to eliminate the personal equation and seize on things-in-themselves, his safest course is to sift experience to its elements and thus obtain a sure footing in the independent world. Such elements, whether sensory qualities or logical indefinables, will afford him a nucleus of independence to which he may add such complexes as will satisfy his criterion."[7] In the same analytic spirit does the critical realist contend that, since it is in beliefs about reality that error and uncertainty enter, they are to be escaped by taking up the attitude which Santayana calls "solipsism of the present moment."[8] Here, with every vestige of interpretation and of the personal equation removed, we shall find ourselves face to face with that which cannot be called in question.

Now, in so far as realism is merely drawing attention to the importance, for philosophy as well as for science, of the analytic method, and is affirming, as against what

[6] See *The New Realism,* pp. 11 ff., 161, 24.

[7] *Ibid.,* p. 128.

[8] *Scepticism and Animal Faith,* p. 15.

Spaulding calls the "mysticism" of Bergson and Bradley, that analysis does not falsify since it takes into account, indeed helps to call attention to, the "organizing relations" and "specific properties of the whole,"[9] it is rendering philosophy valuable service. But it seems to affirm more than this. It seems to affirm that analysis is both an absolutely reliable method of attaining certainty, and that it is the only method. As to these contentions, it might at first sight seem that analysis, if carried through far enough, would reveal the pure and irreducible datum. But realists differ considerably in their application of "irreducibility." Perry seems to regard sense qualities as simple, whereas Holt would reduce even these to logic. They constitute, he thinks, linear series and algebras.[10] Russell would divide material things "into time corpuscles as well as into space-corpuscles," though he would have them last "for a very brief period, . . . not for a mere mathematical instant,"[11] as Santayana requires of his solipsism that is to escape doubt. Again, English neo-realism regards consciousness as irreducible, whereas American neo-realism finds it to be a relational quality accruing to a complex field of neutral entities when selected by the responses of a nervous system. And so it goes. For,—as Singer so aptly puts it,— in seeking for the starting point of thought "we are faced with the paradox that the starting point of science, the 'given' out of which it is to construct its world, the indubitably present as opposed to the inferred, that this starting point has become—what? An unattainable ideal!"[12] Holt has indeed taken the only way out when he reduces all things to pure being without further qualification and connotation; for "being, which connotes nothing, denotes everything and by

[9] *The New Realism*, pp. 160 f.

[10] See *Concept of Consciousness*, p. 107.

[11] *Mysticism and Logic*, p. 129.

[12] *Mind and Behavior*, p. 178. The whole section (157-184) is a most readable and convincing criticism of the attempt to discover truth by analysis.

virtue of this is the one universal category."[13] Analysis could hardly go farther; indeed *pure being* looks suspiciously like *nothingness,* except that somehow it contains magically enfolded within itself the whole universe—for Holt maintains that the system which he constructs on this substructure of pure being is a deductive system. One is reminded of the Cheshire cat which vanished leaving only its grin behind, and then when it saw that Alice was frightened came back again. And furthermore, if analysis be the only method of attaining certainty such a synthesis as Holt's system must needs be far from certain; and yet no philosopher can refrain from constructing systems. "The difficulties I find in maintaining it consistently," says Santayana of his solipsism of the present moment, "come from the social and laborious character of human life. . . . For men, . . . who are long-lived and teachable animals, solipsism of the present moment is a violent pose."[14]

And this is the second objection to the sole dependence upon analysis for the discovery of truth, that even its advocates seem to regard it as but the first step in and not the goal of their philosophizing; for it is the go-togetherness, the complexity, of experience which man, being what he is, seeks to understand. But in the exposition of this go-togetherness, in the discovery of the laws which constitute and govern complexes, analysis yields no assistance, and the certainty which it gives is impotent. For when my toy has been shattered, 'the manner of its going together' is not one of its fragments. If, then, philosophy is to be true to its calling, it must face the task of seeking a synthetic view of reality. But let it pay good heed to the warning of the analytical school and not too light-heartedly or with too great assurance of success undertake its task, lest its achievements belie its hopes.

[13] *Op. cit.,* p. 21.
[14] *Op. cit.,* p. 17.

We have seen that the search for laws governing the relations of phenomena constitutes the motive of science and philosophy; that not by analysis but by synthesis, not by discovering parts but by tracing relations, can we come by any useful knowledge. And if philosophy is not content, as are the particular sciences, to limit its investigations to fairly well delimited fields, but insists on taking the whole of reality as its field, it is for the very good reason that the particular sciences do not restrain their own thinking within any narrow limits. For man needs not only to bring his scientific, his historical, his ethical and his other interests into some sort of unity within themselves, but also to establish some sort of unity between these interests when they seem to conflict. He who would act coherently and think coherently must needs seek coherence in the world in which he lives. And so the idealist makes it his fundamental assumption that reality is coherent, for on no other assumption could one continue to philosophize. And if reality be assumed to be coherent, it will follow as a necessary corollary—and this I would suggest is the only criterion of truth available to man as he now is—that our theories and descriptions are more likely to be true the more they enable us to synthesize, *i. e.*, to find coherence among, the phenomena of experience. Thus, the theory that it is the earth which moves about the sun brings a larger number of phenomena into relation, organizes a greater body of facts, than does the theory that it is the sun which moves. Hence its general acceptance by scientists. It is this coherence of phenomena that the philosopher means when he speaks of coherence as a test of truth, and not merely the construction of a system of self-consistent propositions regardless of their bearing upon experience.

If then the degree of coherence which it introduces into experience is the test of the truth of any proposition,

scientific theory, or system of philosophy, it would follow that absolute truth would be attained only in that Absolute or Completed Experience in which all the particulars of actual and possible experience would be given their proper place. Is this an attainable goal for human thought? The history of philosophy is there to testify that at least it has not yet been attained. And, as Spinoza and Bradley define the Absolute, it would seem to be unattainable not only because human thinking is weak, but because the Absolute is not to be attained by thinking at all. "Thought," says Bradley, "seeks to possess in its object that whole character of which it already owns the separate features. These features it cannot combine satisfactorily, though it has the idea, and even the partial experience, of their complete combination. . . . Thought can understand that, to reach its goal, it must get beyond relations. Yet in its nature it can find no other working means of progress. Hence it proves that this relational side of its nature must be merged and must include somehow its other side. Such a fusion would compel thought to lose and to transcend its proper self."[15] But this Absolute Experience in which thought is to be transcended can obviously not serve as a criterion of the truthfulness of thought.

We have already seen reason to distinguish objective from subjective idealism. Within objective idealism at this point a further distinction appears. The speculative idealist—or, as Bosanquet preferred to call him, the "speculative philosopher,"—rejects the absolutist's contention that human thinking, being relational, is essentially contradictory. Contradiction is due not to the nature of thought as such but to the complexity and insufficiency of the data with which thought is working. Were we content to disregard data and construct abstract systems our task would be

[15] *Appearance and Reality,* pp. 181 f.

easier and our results more exact. In that most abstract and analytic of the sciences, symbolic logic, the greatest logical consistency can be attained, but it is an empty consistency, since, as Russell admits, "pure mathematics can never pronounce upon questions of actual existence;" indeed "mathematics may be defined as the subject in which we never know what we are talking about, nor whether what we are saying is true."[16] Physics, being a somewhat less abstract science than mathematics, attains to a lesser degree of consistency and finality. And the more concrete the more replete with content and complexity, the object of study becomes, the more difficult becomes the task of constructing a coherent synthesis or system in explanation thereof. Hence the absence of certainty and finality in any system of philosophy.

But if that total explanation of reality, that fully rounded and all-inclusive science which men call philosophy, lies forever beyond human power to achieve—not indeed because it is by nature not to be attained by thought, but because humanity is limited in time and space and mental capacity—can such an ideal serve us in our search for a criterion of certainty any better than the transcendent *Ding an sich* of Cartesian and Kantian philosophy or the transcendent Absolute of Spinoza and Bradley? What criterion of truth can we extract from the unattainable goal of the intellectual endeavour? Before venturing to answer this question let me first point out that it never occurs to science and to art to despair of their task because they too have set themselves unattainable goals. What scientist is there who is prepared to affirm that the last word has been or ever will be said on the structure of matter or the evolution of life? Or what artist is prepared to proclaim that in his line the acme of achievement has been attained

[16] *Mysticism and Logic*, pp. 69, 75.

nevermore to be surpassed? New achievement, progress in science and in art, is possible only so long as scientist and artist entertain the hope that there are yet new realms of reality to be investigated, new worlds of beauty to be created. If then science and art do not turn agnostic because finality is in their realms unattainable, why should the philosopher despair that after twenty-five centuries of speculation the completed scheme of things has not yet been discovered? But can we know at least that we are travelling in the right direction? Is there any compass pointing to the intellectual adventurer his way across the uncharted oceans of thought?

Speculative philosophy affirms, first, that even in the confusion of unsystematized experience we are in direct, though fragmentary, contact with reality; and, secondly, that, since the confusion we feel is due to this fragmentariness, it is to be removed by tracing connections between the various bits of reality actually given. Reality is like one of those puzzle pictures in which a large number of dots on a page appear as a confused mass until you unite them with a continuous line, when they are seen to form a picture and the significance of each point, that is to say its relation to all the rest, becomes clear. By this synthesizing, relating activity of thought, and not by its transcendence, is wider and richer contact to be obtained with that reality with which we are already in touch; and in this way too is the significance of each element in the confusion of experience progressively revealed. We are not searching for reality, for we are already in contact with it; but we are searching for wider contacts and deeper insights. Reality is not a distant goal, a 'first' or 'final' cause, to be discovered at the end of an endless search, but it is the unity of the experience that now is;

and as I attain to more of unity and coherence do I attain to a more adequate knowledge of reality.

Certainty, then, in one sense of the word, is not a goal to be arrived at. We are always certain in that whatever experience we have is a real experience. This insight into the meaning of the word real the neo-realists have brought home to philosophy.[17] Whatever is, is. Even illusions and dreams are, else had there been no need to take account of them. But certainty in another sense of the word, the certainty whereby I can pass from one experience to another—this is something to be sought. It is not enough for me to know that Chicago and St. Louis both are; I wish also to know how to get from the one to the other. If I intend to go to Chicago but board the train for Detroit, I may be comforted by the thought that I am still in "God's country," but I am getting farther and farther from my goal. Detroit may be as real as Chicago, but if the latter is my destination then the former is for me error, unreal, that is, not what I really intend. So are dreams equally real with stones, in the sense that there really are such things. But dreams become real in a more significant sense when one discovers their laws and is able to handle them to his purpose. They do not acquire more being by being understood; but they acquire more significance. And this is not the philosopher's definition of reality merely; it is also what the man in the street means by reality. For whatever he cannot place or use or see the meaning of he calls unreal, such as dreams, mirages and philosophical speculation. Nor is he unjustified. These are for him 'unreal' until he can discover their source and goal. In this sense, then, of giving us not assurance of the presence of something but assurance in the handling of what is thus presented, we may say that

[17] See Bosanquet, *The Meeting of Extremes*, p. 28.

to discover ever wider ranges of coherence in our universe is the way to certainty. While, then, the completely coherent system of the universe is unattainable, that ambitious Truth which men spell with a capital T, so that, as the sceptic correctly affirms, we can never guarantee the finality of any of our theories or systems but must hold them as the best working hypotheses merely and reject them when they cease to be that, nevertheless we have in the ideal of a progressively inclusive and coherent interpretation of experience an instrument for the constant self-correction of thought. Philosophy's goal is "a view of reality as a whole and in detail which satisfies all the demands that man as he then is finds himself constrained to make; so that the science, philosophy, art, ethics, and religion of that day (if such there be) all have the same vision; all accept, without any disloyalty or sense of strain, the same thing. If this ideal is felt to be impossible of attainment, it can nevertheless be used as a regulative conception by means of which to bring clearly before one's self the enormous distance that man has yet to travel before his infancy is passed."[18]

[18] Leonard Russell, *The International Journal of Ethics,* Jan., 1927, p. 146.

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NEO-PRAGMATISM AND THE WAYS OF KNOWING

I

CRITICISMS of pragmatism are still directed at a relatively low level of 'emergence' within the pragmatic movement. Joad,[1] after insisting that pragmatism stands or falls with its theory of truth, regards this theory as affirming that those ideas which further our purposes are for that reason true, and hence that a true belief is one which works. Similarly, Montague[2] regards the "satisfaction of needs" as the pragmatic criterion of truth, and states that "the Instrumentalist treats truth as one form of successful adaptation to environment." Having reduced the pragmatist to such a straw man, criticisms are, of course, easy and deadly. Ruggiero's caricature of pragmatism[3] is colored with an emotional scorn. After assuring us that pragmatism is "*par excellence,* the philosophy of the business man," "the *reductio ad absurdum* of empiricism," and after admitting that James' *Psychology* "contained much that was of real value," he concludes that James' *Pragmatism* "marks the complete decline of his mental faculties, the final impotence of his thought." Here "philosophy has vanished and we are on the brink of comedy, if not downright charlatanism"; we are left with only a "series of ineptitudes that bring disgrace on the name of philos-

[1] *Introduction to Modern Philosophy,* pp. 71, 72, 84.
[2] *The Ways of Knowing,* pp. 157, 134.
[3] *Modern Philosophy,* pp. 252, 254, 256.

ophy." Although this series of romantic ineptitudes of Ruggiero deserves only a passing smile, pragmatism fares little better in more systematic treatises. Hoernlé writes,[4] " 'Pragmatism' is the theory that any way of thinking which leads to successful action, which yields predictions that we can verify, which enables us to control our environment and ourselves, or even which merely effects for us a better emotional adjustment to the world, is true." Reid omits entirely any discussion of pragmatism in his volume on *Knowledge and Truth,* and Montague in *The Ways of Knowing* does not regard the pragmatic theory of knowledge as a distinct and primary theory, but rather as an unsatisfactory correlary to an unsatisfactory theory of truth.

Where there is so much smoke there is undoubtedly some fire. Although James' own view of truth is falsified in many of the criticisms, and although the divergence of Dewey's views from this pragmatic caricature is generally overlooked,[5] it is still true that there have remained elements within the pragmatic attitude capable of giving rise to such interpretations. With all the various 'neo' and 'critical' prefixes to contemporary philosophical movements it may be well for pragmatism to distinguish between its primitive and its critical phases. The term "neo-pragmatism" may at least force critics to be more precise in the statement of the doctrine they are criticizing.

It is the purpose of this paper to suggest a precise formulation of the pragmatic account of knowledge, and to show the relation of this account to the central prag-

[4] *Idealism as a Philosophy,* p. 234.

[5] Montague is an exception to this statement (see p. 156 of his volume), but his belief that the refusal to regard experience as such as a case of knowledge is only a passing fancy keeps him from seriously considering the only kind of a theory which is as basically primary as the type of view he presents. Dewey's important statements given on p. 135 should not be overlooked in any criticism of his (Dewey's) views.

matic doctrines.[6] In particular, it is believed that this formulation not merely escapes the criticisms suggested by Montague, but that it is able to offer the correction and supplementation which Montague's own theory of knowledge demands.

Before entering upon this project it will be well to stress the plan of argument. There are three basic contentions of the pragmatist: 1) that mind, thought, knowledge, and truth are functions within experience and completely describable in experiential terms; 2) that the reflective process as experienced is always connected with and is a function of behavior problems; 3) that experience itself is the final referent of the term 'real.' The first and third positions result from accepting the phenomenological attitude of radical empiricism; the second is due to contact with the evolutionary and functional positions of biology and psychology. The third claim of the pragmatist admits of a number of diverse interpretations and has not yet received sufficient elaboration. It will enter the present account only in the form which bears upon the problem of knowledge, namely, as the claim that experience is not a revelation or appearance of some metaphysically distinct or different reality.

It may be noticed that emphasis can differ as to the significance of the first two claims. If thought has the end or aim of attaining an adequate adjustment of the organism to the world, it is natural to regard mind as a form of behavior, and to regard truth and knowledge as residing merely in the means of reaching such an adjustment, or in the consequences to the organism which result from the reflective process. This would subordinate the first contention to the second, and would give rise to the

[6] This inquiry was approached from the related problem of truth in an article entitled "The Prediction Theory of Truth," *The Monist*, XXXVIII, pp. 386-401. These two treatments are complementary.

primitive form of pragmatism in which the relation of thought to behavior is transformed into the doctrine that truth and knowledge are merely names given to the reflective process when it terminates in successful adaptive behavior. This transformation was historically the more natural because an analysis of the general relation of thought to behavior was attained sooner—since it was aided by psychological and biological material—than an adequate analysis in experiential terms of mind, knowledge, and truth.

But another emphasis is possible. While insisting upon the instrumental character of the thought process, it may still be maintained that the precise meaning of mind, knowledge, and truth within this process has to be found by a detailed analysis of experience, and need not be identified with success or lack of success in behavior. That is, although these terms function only in adjustmental processes, their meaning may be different from the behavior goal of the process. It is suggested that this neo-pragmatic emphasis is a later one because the task of obtaining a precise solution for the first of the pragmatic claims is a harder task than that of tracing the general function of thought in behavior. This second emphasis would do equal justice to the first two pragmatic doctrines, and not merely reduce the first to the second.

II

Before stating the meaning of knowledge from such a neo-pragmatic position, it would be well to justify the contention that such an approach is needed. Montague's previously mentioned volume furnishes a convenient starting point.

There is not much difficulty in agreeing with him that in their traditional forms objectivism, dualism, and sub-

jectivism provide no solution of the problem of knowledge. It is now a truism to point out that if all the content of experience is regarded as a case of knowledge, and if objects pass in and out of experience unchanged, the problem of error becomes unsolvable. If error be regarded as entirely independent of thought and mind, some kind of an objective dualism must be invoked to explain error, and the neo-realists are forced to supply this by a contrast of contradictory and non-contradictory objects (Holt), of subjective and objective manifolds (Perry), of planes of projection (Pitkin), or of distorted and undistorted appearances (Montague). But to introduce such a dualism, necessary for error, again raises the problem of when knowledge is attained, and the original simplicity of the claim that in experience we know objects as they are, is disturbed.

So objectivism, as Montague rightly contends, passes into some from of dualism, such as the claim of the critical realist that we know objects directly even if they do not directly enter into experience. But again the test of knowledge becomes a new problem, and it is interesting to note that Montague, like Sellars and Rogers, falls back upon an intraexperiential test of truth for an extraexperiential correspondence theory of truth. Thus Montague[7] gives the case of handing a letter to another person to be mailed, this person later claiming that he carried out the act. The writer of the letter does not directly experience the mind of the speaker, and so does not know for certain whether he is telling the truth or not. But the writer receives a reply to the letter, and this is supposed to test his claim as to the other person's mental state. What, though, if the letter had been lost, and then mailed or carried by some third party? What then becomes of the

[7] *Op. cit.*, pp. 258, 259.

test? It is more natural to hold that no intraexperiential test can decisively prove claims made about transexperiential realities, and Montague's counter claim is unconvincing. Although dualism can give a possible theory of what knowledge means, and can theoretically explain error, it purchases this result by taking us out of direct experiential contact with reality, and it cannot tell of any concrete instance whether or not it is a genuine case of knowledge.

Knowledge being uncertain, the transition to subjectivism inevitably follows. But idealism in relating reality to a subject over-generalizes its empirical basis. Because experience is in some sense dependent upon the organism, and because some experience may be mind-dependent, idealism concludes, by a confusion of mind and experience, that reality in general is mind-dependent. Logically, it would seem that merely recognizing the relation of content to a subject does not make such content subjective, in the sense of making it a mental state of a subject-mind. With this recognition, the next step would be to analyze the relation of this experienced content to knowledge, but this requires a more precise view of mind than idealism usually gives, and is the pragmatic road rather than the idealistic one.

Montague, in the main, admits the difficulties in these three "primary" theories, but refusing to recognize the pragmatic account as a fourth primary theory, he is forced to attempt a solution of the knowledge problem by reconciling the essential contributions of the three theories just discussed. His own view is essentially a synthesis. Insisting that the objectivist has shown that external objects *may* have the qualities they appear to have, that the dualist has shown that the experienced object and the external object vary independently (since the former has as its immediate cause the organism), and that the subjectivist has

shown that reality must be conceived as the possible, though not the actual, experience of a self, he concludes that the external object has characters of an experiential sort independent of actual knowledge and experience, and maintains that *at times* the perceived object and the actual object may be identical. In this event there is knowledge, and here Montague is a new realist.

As regards error, however, Montague's position is dualistic. At times the perceived and the external object are not identical, and then any claim that we know the external object directly would be false. In such cases, the external object is "distorted" by conditions of the medium, or the organism, or both. Only in cases where there is no distortion, or where the distortion is corrected, do we have knowledge. Only then is the object "revealed" truly in experience.

Now, without entering into the details of Montague's argument, it is clear that he has only given a possible theory of knowledge, that is, a theory as to when we *may* have knowledge. In the first place, on Montague's own account, the objectivist has shown only that objects *could* have, independently of experience, the qualities they appear to have, but he cannot show that such is the case, any more than the subjectivist can show that external objects do not have such qualities. Even if the objectivist assumption be granted, there would still be no certainty that knowledge is ever actually obtained. It is not surprising, then, to read[8] that "the function of the sceptic is to make us realize that no knowledge attainable by the human mind is absolutely certain." But it is surprising to read such a statement as the following, where this view is not applied to his own theory: "If the foregoing analysis is valid, the epistemological problem is solved."[9] The place of proba-

[8] *Op. cit.*, p. 231.

[9] *Op. cit.*, p. 315.

bility in his account would be further accentuated if Montague's assertion as to the testing of predictions made about objects external to experience by happenings within experience is rejected.

At the best, Montague has shown that *if* objects have certain qualities independently of being experienced, those same qualities *may* be identical with the directly perceived qualities, and that this situation may be called knowledge. The pragmatist may still argue, however, that the result is, at the best, a probable theory, since the identity of the perceived and the external object cannot be directly tested one way or another, and may further claim that the very neglect of the place of reflection in knowledge has obscured a simpler theory of knowledge which can be tested, and which does admit of genuine, "absolute" knowledge. Though it may seem queer for the pragmatist to assert that probability is not knowledge,[10] the logic of his position justifies that assertion.

The fundamental assumption which leads to Montague's final conclusion is the assumption that *experience is a revelation of transexperiential objects.*[11] This assumption causes the difficulties in all three of the primary theories, and in accepting it Montague is following in historic footsteps. Would not a theory which gives up this assumption be a genuinely primary theory, and the theories which Montague discusses be subdivisions of the class of

[10] This, of course, does not deny a knowledge *of* probability.

[11] Note, for instance, the phrase "the revelations of experience," on p. 309 of *The Ways of Knowing*. Montague continues: "What appears in our consciousness as a physical world is the indirect effect of the objects and forces of the environment which combine with the media through which they act and with the brain itself to produce the direct determiners of whatever we experience. Because of the indirectness and complexity of the process, the cerebral states that condition our experience give only a misplaced and distorted presentation of their extra-bodily causes—hence the existence of error. But the distortion involved in the immediate sensory picture is in large measure corrected by the happy capacity of the brain to retain the traces of previous effects which may combine with the impressions of the moment to produce an experience in which things appear as they are—which is truth." See also *The New Realism*, p. 292.

theories which accept this assumption?

Before traversing the road which thus opens up, it might be noticed that the same basic assumption and consequent difficulty underlies Reid's account as found in his volume, *Knowledge and Truth.* For Reid, as for G. Dawes Hicks, appearances are things-as-appearing, not existences separate from things. Even images exist only as imaging-of-things. Knowledge[12] is the "mind's direct apprehension of the real," it is "prehensile," "a kind of grasping of the physical by the psychical." At the same time, Reid admits that the same object may have different appearances as a result of different media. So far one could perhaps agree, as argued by G. Dawes Hicks,[13] that if objects did have certain qualities independent of experience, these qualities would necessarily appear different under different conditions of observation. But Reid goes beyond this position in his claim that in spite of the media, "it is the existing thing with its qualities which is given."[14] It is difficult to reconcile this claim with his belief that the creative theory of sensa is more probable than the selective theory,[15] for on the former theory objects do not have in themselves the secondary qualities they appear to have. In the case of color he states that the appearances may be so unlike that which is appearing, because of distortion, that the two belong to "totally different orders."[16] He says of the mind, that "working through its sense organs . . . . . by some process unknown," it can "modify what is presented as quantitative motions so that they appear as qualities."[17] In such cases, at least, appearances hardly seem to be things-as-appearing.

[12] *Op. cit.*, pp. 189, 200, 182.
[13] *Proceedings of the Sixth International Congress of Philosophy*, pp. 230, 235.
[14] Reid, *op. cit.*, p. 130.
[15] *Ibid.*, pp. 143, 171.
[16] *Ibid.*, p. 146.
[17] *Ibid.*, p. 175.

The view that experience or "appearance" is a revelation of something beyond itself comes out clearly in the discussion of truth. Reid maintains, rightly, that truth is the property of a judgment, and not of an object as such.[18] But he rejects the correspondence theory as a test for truth with the claim that perception itself may be "mistaken."[19] Thus he writes,[20] "We describe what ought by hypothesis to happen, and we experiment to see if it does happen before our eyes. But it is equally obvious that correspondence does not describe the nature of truth, for it is notably common that what we are making the criterion of truth, namely perception, is itself subject to misinterpretation, error, hallucination." It is equally obvious, one might suppose, that if truth is really made a character of the reflective process, perception as such cannot be "mistaken," or be a case of "error," for such words are applicable only when experience is regarded as a knowing of that which is "appearing."

It is difficult to see how Reid's theory of knowledge escapes the difficulties he finds in critical realism. His statement that "knowledge must be of a direct (and not *e. g.*, of a 'corresponding' or 'copying') kind, though working by means of processes and through media,"[21] sounds very much like a statement of the critical realist's program. Only knowledge "gets through"[22] to reality, we are told, but when and how are we to be assured of this? Through what does knowledge have to get? He accuses[23] critical realism of a "curious wobbling on the question as to whether we know the real world directly or not," but only his erroneous statement that critical realism is an episte-

[18] *Ibid.*, p. 61.
[19] *Ibid.*, p. 204.
[20] *Ibid.*, p. 120.
[21] *Ibid.*, pp. 181, 182.
[22] *Ibid.*, p. 205.
[23] *Ibid.*, p. 134.

mological dualism which denies that the object is known directly,[24] prevents him from seeing that he himself is in the same general predicament of wanting knowledge to be direct while at the same time recognizing the relativity of content to the observer and his medium. Like Montague, Reid needs some kind of a dualism between experience and reality to account for error, but the admission of this dualism means that in no concrete case can we be certain that we have the directness which knowledge, on this type of theory, requires.

III

The neo-pragmatic theory of knowledge renounces completely the doctrine that experience is a revelation of and a knowledge of something independent of experience. It can not deny that objects external to experience (passing by the difficulties in such a phrase) *may* have the qualities they appear to have, but it does insist that they may *not* have such qualities, and that nothing but uncertainty can result from basing epistemology upon such dicta. Its own theory is untouched by the question as to whether sensa are selected or generated by the action of the organism.

It is only necessary for the purposes of this theory to grant that experience is, to use Dewey's phrase, a natural event. As Dewey insists,[25] there is no more reason why

[24] *Ibid.*, pp. 126, 123, 129.

[25] *Essays in Experimental Logic*, p. 390 ff. See also his article, "An Empirical Account of Appearance," *Journal of Philosophy*, 1927, XXIV, pp. 449-463. The justification of the term neo-pragmatism, at least in regard to the problem of knowledge, is evident when it is remembered that James held, in addition to his more distinctive doctrine of "knowledge-about," a doctrine of immediate knowledge very similar to, though not identical with, the position which Montague now defends. For James, as for Montague, the experienced content could be in two series, and immediate knowledge arose when the mental content was identical with the object, that is, when the physical and the mental series intersected so that the same content was present in both series. *The Meaning of Truth*, pp. 48-50; *Essays in Radical Empiricism*, pp. 9-15. Although this doctrine of immediate knowledge was probably the epistemological

experience is a knowledge revelation of its conditions, than water is a knowledge revelation of hydrogen and oxygen. If the realist wishes to regard experience as a case of immediate knowledge, the pragmatist would insist that it is not, at any rate, a knowledge of anything else, such as the conditions of the experience, or the nature of objects or experiences different from the experience in question. To have an experience is just to have it, and not to know anything beyond it. The strategic importance of this approach is that no complexity of media or physiological conditions affects the analysis of knowledge, or renders experience "subjective" or "mental."[26] In one stroke the pragmatist has transcended the positions of the objectivist, the dualist, and the subjectivist. He alone can admit the relativity of content to the observer without rendering knowledge uncertain, and without withdrawing the observer from direct contact with reality. In experience we are directly immersed in at least one level of reality, but such immersion is not as such knowledge. When, then, does knowledge arise?

It is here that the pragmatic analysis of the reflective process enters the account. The organism as one factor within experience, attains, at the human level, the capacity of using parts of experience as symbols of other parts. As a symbol, a part of experience now serves as a reminder of something beyond itself.[27] *An experience is revelatory of*

basis of James' philosophy of religion, he devoted little space to its consideration. At the same time, James never repudiated the doctrine of immediate knowledge. Dewey explicitly does so. Considerations of the sort that Montague presents have become of lesser, and not of greater, importance in the growth of the pragmatic position.

[26] *Cf.* Mach's statement: ". . . *the senses represent things neither wrongly nor correctly.* All that can be truly said of the sense-organs is, that, *under different circumstances they produce different sensations and perceptions.*". *The Analysis of Sensations,* 1914, Open Court edition, p. 10, note.

[27] *Cf.* "The Concept of the Symbol," *Journal of Philosophy,* XXIV, pp. 253-262, 281-291.

something beyond itself only at the stage of symbolic functioning, and it is only at this level that knowledge occurs. Knowledge is a function of and a product of the reflective process. The only way of knowledge is the way of thinking truly. Without minimizing and caricaturing mind like realism does, and without emotionally exaggerating mind as the idealist is wont to do, pragmatism is forced to find knowledge and truth in the relation of symbolic to non-symbolic events.

Symbols allow organisms to "live ahead," to react to stimuli in terms of the experiences that have been objectively associated with them. Adult human experience is so shot through with this symbolic functioning that philosophers have taken transcendence as a character of experience in general.

When a stimulus has become ambiguous for purposes of conduct, experience, at certain organic centers, functions at a symbolic level. The task of rendering the stimulus unambiguous is the task of reflection. This requires that the ambiguous stimulus be interpreted, classified, explained. The stimulus itself becomes a symbol of possible correlated experiences (perception, in the psychological sense of the word), and the process of interpretation is continued by judging, on the basis of past experiences now functioning through present symbols, as to what the experiences yet to come will be. The minded organism is endeavoring to "know" the stimulus by relating it to more familiar and previously known experiences, and knowledge arises when the intellectual claims or predictions as to the relations and properties of that which is being known are substantiated by occuring as predicted. An experienced item is known when by the functioning of symbols it is correctly related to other experiences, and the

symbol sequence which so relates the experience in question is a case of knowledge. To know water is not merely to see it, drink it, bathe in it, but to predict truly that it can be drunk, that it is pleasant to bathe in, that it feels wet, that is puts out fires, that it is formed by hydrogen and oxygen, and so on indefinitely. The greater the number of verified predictions about a thing and its connections with other things, the more we know that thing. Merely to stare at it is not to know it at all. Knowledge, then, is the residuum of successful judging processes, and so issues from, and only from, the symbolic functioning of events, that is, from the reflective process.

IV

The term "successful" has been purposely left vague in the above sentence. At first sight, and primitive or popular pragmatism takes this road, it might appear that successful is an adjective qualifying behavior, that we know a thing when our reflective process allows us to act successfully in regard to the thing. But this conclusion need not be drawn; such behavior may be a result of knowledge rather than the condition of knowledge. Successful—and it would be better not to use the word at all in such discussions—is here an adjective qualifying judgments and not behavior.

In the previous article on truth the claim was made that truth always involves the verification of a prediction, and that nothing not predicted is relevant to the truth or falsity of the prediction. Success in behavior is for this reason relevant in discussions of truth only when such success is explicitly predicted. It must now be recognized that such a verified prediction is a case of knowledge. Since every truth is a case of knowledge, the logical status

of the two is identical. In order to make adjustments it is important to get instances of truth and knowledge, but these remain truth and knowledge even if the resulting behavior is unsuccessful. Knowledge is useful in behavior, but usefulness in behavior is not the criterion of truth. Although truth and knowledge appear in the reflective process they are not to be identified with the goal of the total adjustmental process. They are aids to the better attainment of this end result, but their meaning extends beyond, though they function within, the process of adjustment.

The above account treats knowledge as a result of the knowing process. Dewey at times seems to reduce all knowledge to knowing. But knowledge, certain and "absolute," as resulting from knowing activities, may be passed around and acquired second hand, and can be collected in text books and encyclopaedias. There thus grows up a body of knowledge, that is, a body of verified and verifiable predictions, utilizable by others than those who first brought the knowledge into being.

It may be noticed that in this account there is no ultimate distinction between pure and practical knowledge. It is the importance of knowledge that gives sanction and support to the group of thinkers whose distinctive task is the search for knowledge. These "professional knowers" are dependent for their social and economic position upon the accuracy of their knowledge. It is the importance of knowledge that makes the accuracy of their knowledge so important. They represent a specialization within the reflective process; their knowledge is "pure" only in regard to their immediate purpose, it is intensely practical when considered in its larger social bearings. Further, even the purest knowledge functions within an adjustmental process.

Wherever there is knowledge there is the interpretation of an ambiguous stimulus in terms of familiar associated experiences. In many cases knowledge leads to the control of the now known sequence of experiences, but even when this control is not desired or is impossible, knowledge means that a problem has been solved, and it allows of the possibility of the control of the organism in relation to the known object. Where we can not control the world we can at least prepare ourselves for what is to happen, and the latter is as much a matter of adjustment as the former. Even though we could not keep the proverbial heavens from falling, a knowledge of the impending fall would reduce the uncertainty of our fate. There is wisdom even in the knowledge of death. Merely to explain—to make the unfamiliar familiar—is to open up new possibilities of adjustment, even if these possibilities are not and can not be acted upon.

The pragmatic placing of knowledge within the reflective process, while avoiding the metaphysical problem which comes from making immediate non-reflective experience a case of knowledge, nevertheless may claim to represent the sole way of knowing. Only through reflection does knowledge arise. At the same time, such a view does not define knowledge in terms of successful behavior, nor does it fail to do justice to the importance of the search for knowledge itself, even though it does claim to point out the meaning of this search. Although the difficult problem of the relation of experience to reality remains, on the pragmatic account this relation is not an epistemological relation in which experience is an appearance claiming knowledge of something which does not appear. With experience conceived as a natural event, the

organism is immersed in reality, but to know the world reflection made possible by symbols is necessary, and it is only when predictions made by symbols are verified by obtaining the experiences predicted that knowledge—to use a blessed word—emerges. Finally, from this point of view the function of the sceptic is not to convince us that no knowledge is certain, but to make us cautious that what passes for knowledge *is* certain, that is, is *knowledge*.

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A PERSONALISTIC CONCEPTION OF NATURE[1]

ARE there beings, besides man and the Absolute, who may be called personal? Or, in plain words may the lower animals and even the so-called inanimate objects also be called personal? Of course most people will unhesitatingly reply in the negative. The main reasons for such a reply would be briefly these: The lower animals, not to speak of the inanimate objects, do not exhibit any sign of self-consciousness; they are, no doubt, each a centre of experience, but they are not conscious of this fact; undoubtedly all of their actions are adjusted to ends, but they are not conscious of those ends; those ends must be consciously presented somewhere, but they are not so presented to the animals; their actions may, therefore, be explained as spontaneous reactions to actions upon them by their environment. The animal consciousness is, after all, a mere succession of impressions and ideas, i. e., feelings in their primary or more lively, and in their secondary or less lively, stage. Green contended[2] that "there is an absolute difference between change and the intelligent consciousness or knowledge of change, which precludes us from tracing any development of the one into the other, if development implies any identity of principle between the germ and the developed outcome. When we speak of a development of higher from lower

[1] We owe to Professor J. K. Majumdar of Presidency College, Calcutta, this opportunity to publish, posthumously, this paper by his distinguished father.

[2] *Prolegomena to Ethics*, p. 95.

forms of intelligence, there should be no mistake about what we mean and what we do not mean. We mean the development of an intelligence which, in the lowest form from which the higher can properly be said to be developed, is already a consciousness of change, and therefore cannot be developed out of any succession of changes in the sensibility, contingent upon reactions of the 'psychoplasm' or nervous system, however that system may have been modified by accumulated effects of its reaction in the past." Even if it were possible to refute the contention that there is an absolute distinction between the brute consciousness and the human consciousness, yet we have much surer ground for saying what we are than for saying what the brutes are not. If the animals have a consciousness corresponding to that which we exercise in knowledge, as any rate we cannot enter into it. Their actions, as observed from the outside, would seem to be explicable without it—explicable as resulting from the determination of action by feeling and that of feeling by feeling, in other words as resulting from successive changes of the sensibility, without any need for ascribing to them any consciousness of change, any synthesis of the modifications they experience as belonging to an interrelated world. We are thus warranted in saying that we have no evidence of the presence in 'brutes' of such an intelligence as that which forms the basis of our knowledge; and that, *if it is absent*, there can, properly speaking, have been no development of our mind from such a mind as theirs."[3]

In these passages Green seems to be quite unwilling to attribute self-consciousness to the brutes. The ground of such unwillingness is that we cannot enter into their mind, and, as we can explain their actions by mere succession of feelings without assuming the operations of any

[3] *Ibid.*, p. 95 f.

self-conscious principle, it is more reasonable not to attribute self-consciousness to them. All these are evidently mere guesses. The truth is that by mere observation we cannot ascertain whether the brutes possess self-consciousness or not. By mere observation one man can ascertain whether other men also possess self-consciousness, because in this instance the outward manifestations of self-consciousness are nearly the same with all men. But the case is altogether different with the brutes and the inanimate objects. It may be apparently possible to explain their actions by mere succession of feelings; and if we suppose beings to be existing and possessing far higher self-consciousness than ours, it may be possible that they will also interpret our actions in a similar way. So that mere observation is not a safe guide here. If we have better and far more reasonable speculative grounds for inferring that the brutes and even inanimate objects also possess self-consciousness, at least in a lower degree, we have no reason for rejecting such an inference in favour of the inference drawn on the insecure ground of observation.

Dr. Bradley also has raised this problem and has tried to reject it. (*Vide, Appearance and Reality,* p. 529). He flatly denies self-consciousness to some of the things that fill the world; and those things must evidently be the lower animals and the inanimate objects, because self-consciousness cannot be denied to man. The main reasons for such a denial seem to be briefly these: The self or the soul must be a centre of experience or feeling; but every such centre is not necessarily a self or soul. In every centre of experience the whole Reality is present; in our first immediate experience also the whole Reality is present; at this stage there is no consciousness of self. "Then from immediate experience the self emerges, and is set apart by a distinction. The self and the world are ele-

ments, each separated in, and each contained by experience. And perhaps in all cases the self—and at any rate always the soul—involves and only exists through an intellectual construction. The self is thus a construction based on, and itself transcending, immediate experience. Hence to describe all experience as the mere adjective of a self, taken in any sense, is indefensible. And, as for transcendence—from the very first the self is transcended by experience. Or we may in another way put this so. The self is one of the results gained by transcending the first imperfect form of experience. But experience and Reality are each the same thing when taken at full, and they cannot be transcended..... My self is not the immediate, nor again is it the ultimate, reality. Immediate reality is an experience either containing both self and not-self, or containing as yet neither. And ultimate reality, on the other hand, would be the total universe."[4]

The essential point in Bradley's argument is that self, by which he means merely that whose essential characteristic is the consciousness of the distinction between the self and the not-self, is an intellectual construction, absent in the beginning and emerging only at a certain stage of our conscious life; that it also disappears in the end, i. e., when it attains perfection, and also in the Absolute where such distinction cannot exist; and that, thus, the self is neither the immediate nor the ultimate reality—it is, after all, an appearance. This is certainly an astounding assertion and is based upon the misconception of the true nature of the self. Self-consciousness may be said to be the real clue to the ultimate structure of reality; and sentient experience or feeling is either itself an intellectual construction or it is nothing at all. And if self-consciousness is the only criterion of reality, it is present explicitly

[4] F. H. Bradley, *Appearance and Reality*, parts of pp. 524-526.

or implicitly in all experience and therefore in all centres of experience, because there is no such centre that falls outside experience. Again, Bradley admits that "the whole reality is present in every centre"; and this important admission necessitates the conclusion that every such centre, whether human or sub-human, partakes, however imperfectly, of the nature of the Absolute, and therefore, of self-consciousness. Thus, if the Absolute is all-pervasive, self-consciousness also is all-pervasive, of course in different senses and degrees. We shall dwell upon this point at length in the sequel.

Bradley adduces another reason: Even if it is admitted that every centre of experience, i. e., everything (for he admits that "no element of reality falls outside the experience of finite centres"), is a self or soul, this will be inconsistent with the assertion that "the Absolute is a system of all finite centres." For if each self maintains its distinction, as it must, from everything else, from even the Absolute, the Absolute, in that case, will be an aggregate of selves, not a system in the sense of one all-pervasive experience, inasmuch as in such experience all things, as such, are completely transmuted and lose their individual distinctions. It is curious that this assertion is inconsistent with his previous assertion that in the Absolute nothing, not even the most insignificant thing, is wholly lost. The truth is, there is no self-contradiction involved in the assertion that the Absolute is a system of selves, if we understand properly the nature of such a system and of these selves. We shall see in the sequel that no other conception of the Absolute is entirely free from self-contradiction.

Bosanquet seems to countenance a view similar to that of Green and Bradley. He denounces panpsychism because it teaches that everything has a soul. This doctrine

has been very ably supported Dr. Paulsen in his *Introduction to Philosophy* on purely scientific grounds. The metaphysical justification of it can be easily deduced from Spinoza's doctrine of Substance, Attribute and Modes. Hegel's theory of the Absolute also supports this view. We shall later refer to these views. Bosanquet, however, though a follower of Hegel, has turned from him at this point for the following reasons: (1) If panpsychism is necessary then the resolution into spirit must be universal, and in that case all externality is dissolved away, i. e., "all outward appearance becomes resolvable *ad infinitum* into spirits." (2) Panpsychism transforms the complementariness of mind and nature by an analysis of one into the other and thus wholly destroys the speciality of function for which the one is needed by the other. And if it is insisted to reduce to a homogeneous type the contributions of all elements to the whole, then what would become of the material incidents of life, e. g., of our food, clothing, etc.? Our relation to these things is essential to finite being, and if these things are in addition subjective psychical centres then "their subjective psychical quality is one which so far as realised would destroy their function and character for us." (3) "The work for which finite mind is necessary and valuable may surely be summed up as guidance, including will, and appreciation, including emotion." But the conduct and behaviour of the lower animate and inanimate world may be explained without assuming any "need of mind for will or guidance." In their case all the marvellous works of guidance are carried on without a finite subjective mind. (4) It is more difficult to limit the value of mind for appreciation. The plant, mountain, sea, do not feel and enjoy their being, power and persistence. Though all this is more or less conjectural, yet "it seems worth observing that apprecia-

tion is of less interest as its object loses distinctiveness, and that, according to all presumptions of analogy as well as definite evidence, the capacity of consciousness for distinctive apprehension must diminish as we go down the organic scale. Thus the function of appreciation can hardly be supposed to exist as a *raison d'être* of subjective mind." "It is, on the other hand, emphatically present in the onlooker, the higher among finite spiritual beings, which, in a word, appreciate and understand the lower organic world very far better than that world can be supposed to appreciate and understand itself. Such an argument applies to the inorganic world very much more strongly. Suppose a mountain or a lake to have a dim subjectivity of its own, this consciousness can neither guide itself, nor again appreciate itself as the poet and artist can appreciate it. Whether or not it possesses a subjectivity, its subjectivity does nothing in the finite world. Its function is that of an object to the subjectivity of another, an externality correlative to finite mind, not that of a being which is itself a subject or finite mind." Hence Bosanquet concludes that panpsychism is simply a gratuitous hypothesis "depending on a hasty resolution of the responsiveness of Nature to mind by help of the ideas of resemblance, and wholly failing to recognise the complementary functions of subjective mind on the one hand and externality on the other as together essential to any complete form of conscious experience."[5]

The above objections of Bosanquet do not seem to be valid. The reasons may be said to be these: (1) There is nothing external to and outside of the self. 'External' and 'outside' are terms which are not appropriate to express the relation between the self and nature, or the not-self. They may be regarded as distinct and opposite, not ex-

[5] The above passages are taken from *The Principle of Individuality and Value*, pp. 362-66.

ternal to or outside of each other. If, then, panpsychism dissolves all externality and outsidedness, it does what it should do. In fact, panpsychism does not deny that nature is the counterpart of spirit, because such a counterpart is indispensably necessary for the very existence of spirit. But it simply asserts that everything in the world of the not-self has a self like our own, or more appropriately, is a self like our own. It is not certainly necessary that to be a counterpart of a self a thing must be merely physical, i. e., divested of a self. Is not the self of one man the not-self to that of another? May I not say that to my self the rest of the universe which includes all other selves, human and super-human, is the not-self, i. e., the object of my thought? If we answer it in the affirmative, as we must, then it may also be admitted that if some members of the world of my not-self are selves, all other members may also be so. At least, there is no absurdity in the argument. And if panpsychism may prove on firmer metaphysical grounds that such is really the case, it must be admitted to be a legitimate hypothesis.

(2) Panpsychism does not certainly transform the complementariness of mind and nature on which their inseparability depends. We have shown in the preceding paragraph that if all objects—men and other things—be regarded as selves they do not, for that reason, cease to be in the relation of the self and the not-self. Every self is, in turn, a subject and an object; when a particular self thinks, anything in the rest of the world may become its object; when another self thinks, it becomes, in turn, its object; a self can think even of itself and thus make itself both subject and object at the same time. In its essential nature, therefore, every self is a subject-object. If we think of our food, clothes, country and body as selves "belonging to different classes and degrees," we fail to under-

stand how their function and character for us will, thereby, be destroyed. If one human self can serve the purpose of a not-self to another human self, i. e., does not lose its function and character for the latter, why will our food, clothing, etc., regarded as selves, lose their function and character for us? Will they, then, become something entirely different, so that they will lose their essential nature, and thus be unable to serve the function of the not-self? It is difficult to understand how that inference can be drawn at all.

(3) It should certainly be admitted that where there is mind there must be manifestations of guidance, including will, emotion and appreciation. Bosanquet denies that in the conduct and behaviour of the sub-human world there is any "trace of the peculiarities which attend guidance by consciousness." Here he evidently depends on mere external observation, trying to explain them mechanically rather than teleologically. But, as I have said before, at least in this case it is not safe to rely too much upon mere observation. No doubt, the conduct and behaviour of the sub-human world are usually explained by mechanical processes, but those of human beings also are explained by some in a similar way. And if the latter can be better explained by processes indicative of the operation of a mind, then, perhaps, the time may come when the former also will be explained by similar processes. Moreover, if we can prove on incontestable speculative grounds that the sub-human world is also spiritual, we cannot reject panpsychism simply because in the sub-human world no trace is found of guidance by consciousness. It is true that science tries to explain everything mechanically, but it is now generally admitted that the scientific explanation is not the highest one, because the categories employed by

science are not the highest and the most adequate ones.[6]

(4) With regard to his fourth reason Bosanquet himself admits that "we are here in a region with but little to sustain conjecture." So that it is needless to say that it will be unreasonable to reject a theory on merely conjectural grounds while it may be supported by very far better speculative reasons.

(5) Bosanquet's own conception of the Absolute is that it is an organism, a system, a world, and that "a world or cosmos is a system of members, such that every member, being *ex hypothesi* distinct, nevertheless contributes to the unity of the whole in virtue of the peculiarities which constitute its distinctness." "The universal is just that character of experience which overcomes the 'is not' by reducing it to an element harmonious with and corroborative of the 'is.' It is 'the self in the other'."[7] In Chapter Six of *The Principle of Individuality and Value* he proves that "self-consciousness is the clue to the structure of Reality," and concludes that "a perfect experience maintains the positive sense of the self as something which continually passes out of and regains itself (dies to live)." Thus, according to Bosanquet the Absolute is a self-conscious system or world in which each member is united and harmonised with the rest without losing its distinctness. If that is so, is not the whole present undivided in each member, and is not each member a self-conscious being—a perfect finite from its own standpoint? Thus, his own conception of the Absolute proves that every object in nature is a soul.

A. S. Pringle-Pattison, in his Gifford lectures and also in an article entitled "The Idea of God: A Reply to some Criticisms," published in *Mind* (Jan., 1919), expresses his

[6] *Vide*, E. Caird's *Hegel;* also J. Ward's *Naturalism and Agnosticism.*
[7] *Op. cit.*, pp. 37, 40.

inability to accept panpsychism. I cull a passage from the article: "My natural realism consists first of all, in refusing to obliterate the manifest distinction in existence, as the Mentalistic argument constantly tends to do, and secondly, in declining to follow the seductive example of the panpsychists, who, while accepting a real independence or distinctness, transmute the apparently unconscious system of nature into a multitude of infinitesimally conscious centres. I admit, as I have just said, a certain seductiveness in their procedure, because, when we try to conceive or think ourselves into the mode of being of anything to which we attribute concrete existence, we inevitably do 'think ourselves' into it; we construct it on the model of our own selfcentred being, though it may be at many removes. But my difficulty with panpsychism is that if we are in earnest with the spiritual or psychic nature of the monads, we lose once more, as in Mentalism, the idea of environment in the sense in which it seems to be involved in the existence of a finite spirit. In a sense doubtless, it may be contended that panpsychism does provide an environment for the individual, to wit, the social environment constituted by all other co-existing monads. But the social environment is, in our experience, based upon the natural. Spirits for their individuation, self-expression and inter-communication, appear to require bodies and the system of nature in which these bodies are rooted; and to resolve these bodies and the whole material world into little minds is the beginning of an infinite progress. These little minds in turn imply some medium in which they are shaped and through which they can act. If, on the other hand, the monads of the lower class are psychical merely in name, behaving otherwise exactly as we usually believe unconscious material particles to behave, the theory becomes superfluous and we might as well

have accepted the *prima facie* distinction recognised by the common-sense view."

In the first place, we may say, panpsychism does not, as I have shown before, "obliterate the manifest distinctness in existence" when the true nature of the distinctness is properly understood, and Pringle-Pattison admits that panpsychism "accepts a real independence or distinctness." It simply asserts that nature is through and through spiritual and that therefore everything in it is a spirit in some form or other. Though this theory is apparently inconsistent with his natural realism, yet, it seems to me that it is really not so. He himself expounds his theory in these words: "But I did not on that account intend for a moment to assert the metaphysical self-existence, as I may term it, of material things. Modern realists probably tend as a rule to do so, but the idea of the universe as a mere aggregate of independent existences, whether these existences be minds or things, is to me ultimately unthinkable; and, of course, the materialistic form of such an idea—as if the universe consisted of 'bits of unrelated stuff lying about'—is the precise antithesis of everything I have ever taught. 'Essential relatedness' is the conception which I oppose to the figment of the unrelated (and therefore ultimately unknowable) thing in itself, on which I have poured unmitigated scorn. Things exist as they are known by mind, and they may be said to exist in order to be so known and appreciated. In this sense all things exist for mind, but my point is that they do exist; a thing is not itself 'a form of conscious experience,' a phase, that is to say, of the being of the experiencing mind. Finite minds require an environment by which they are shaped and from which they receive their content, and it is nonsensical to seek to represent the environment as a state or process of the mind itself. We do

not dream of doing so in the case of the social environment; no form of Subjective Idealism has been consistent enough to 'analyse away' other selves into forms of the conscious experience of the subject by whom they are known and whom they influence. Why, then, should we so treat that other environment of external nature, which presents itself so obviously to unsophisticated people as an independent reality with which they are in relation?"

Now, we may ask what is the difference between panpsychism and Pringle-Pattison's natural realism? If things exist as known by mind and in order to be so known, and exist therefore for mind, it is manifest that they have no independent existence, i. e., existence apart from and independent of mind; this, of course, does not, as he asserts, imply that they are identical with the mind, or that they are mere phases of the finite experiencing mind. But I fail to understand why they cannot be "forms of experience." To be "forms of experience" they need not necessarily be a phase of the being of the finite experiencing mind; even if they are themselves "forms of experience," yet, they may be distinct from the experience of them by a finite mind. If a thing is not itself a mind, what then is it? Is it matter in the popular realistic sense? Pringle-Pattison denies that there may be such matter. Now, if the existence of a thing is necessarily bound up with that of mind (I use the term "mind" in a general and not in a particular sense), if a thing and mind are inseparable, if the former exists in order to be known by, or in relation to, mind, the only sense in which we can say that it does exist, is that it is itself a "form of experience," or more appropriately, a centre of experience, i. e., a mind or soul. In truth, a mind can know only a mind or what is mental, and really there is nothing in the universe which is not so. Suppose that there are such things:

How can we know them? Do we not know them through our sensations and ideas? But sensations and ideas are mental; they therefore cannot, as Berkeley has emphatically said, represent, resemble or express the nature of things which are, by hypothesis, absolutely distinct from and opposite to, mind. We cannot even say that they are unknown and unknowable, for, in order to make that assertion we must know that they are so, and therefore make them known and knowable. Pringle-Pattison himself tells us that 'essential relatedness' is the concept on which he forms the basis of his idea of the world. But, how can things and minds be 'essentially related' if they are absolutely distinct and opposite; and how can the former exist as known, and in order to be so known by the latter? We may therefore conclude that everything that is known and knowable must be a mind in some form or other. This conclusion does not, of course, imply that the physical environment is reduced to nothing, or to a phase of the being of the experiencing mind; it is still distinct from the latter, when it is a finite mind but only relatively so, for it is also interrelated with the latter. The truth is, both the finite mind and the physical environment are only two distinct forms of manifestation of one and the same Reality, to wit, the Absolute, so that the difference between them is formal and accidental, not essential; a physical thing and a mind are, therefore, two unique centres of activity or manifestation of the Absolute, and are, thus, both spiritual or mental. It is true that all finite minds require an environment for their shaping and content, but for that reason it is not necessary that that environment must be physical in the sense of being absolutely distinct from and opposite to, mind. If the social environment of mind may be spiritual, why may not the other environment called physical be so? Of course, it must be admitted

that the so-called physical environment is not spiritual in the same way and degree as the social; there are grades of spirituality, as there are grades or degrees of consciousness, and the physical environment has a grade of spirituality far lower than that possessed by the social environment.

Pringle-Pattison's real difficulty lies here: like the late Prof. Green he also fails to understand the real force of the argument by which some writers, e. g., J. Caird and E. Caird, have tried to prove the ultimate inseparability of thought and reality, or rather the ultimate identity of them. He observes: "In view of this argument, so familiar to us, in the writings both of the Principal and his brother, Green confesses to "an uneasy sense that it is little likely to carry conviction." It will seem to indicate, he says, that the author confuses essentially different propositions: the proposition that a thing is only conceivable by thought —which he will say is an identical one, for by thought we mean the faculty that conceives—with the proposition that the thing only exists for thought; the proposition, again, that no object can be conceived as existing except in relation to a thinking subject, with the proposition that it cannot exist except in that relation." Again in a footnote in the essay we have been discussion Pringle-Pattison approvingly quotes from Green's *Works* (Vol. III. pp. 138-44) the following: "To assume, because all reality requires thought to conceive it, that therefore thought is the condition of its existence is, indeed, unwarrantable," and he expressly condemns the jump from "thought as a subjective process" to "an absolute spiritual life which, as God, must at the same time be or make the reality of the world." I also confess to my inability to understand the force of Green's argument and the reasons for Pringle-Pattison's acceptance of it. Where does the con-

fusion lie? Take the first instance of the confusion: It would be a real confusion here, if it could be shown either (i) that a thing is conceivable by something else than thought, or (ii) that a thing can exist otherwise than for thought. But neither of these alternatives is possible. We cannot conceive a thing without, and nothing can exist otherwise than for, thought. The former is obvious; but the latter requires some explanation: Supposing that a thing can exist otherwise than for thought, we may ask, how can we know that such a thing exists at all? Is it not by our thought that we know it? Is it not by thinking about it, by making it the object of our thought that we know that a thing exists otherwise than for thought? Is there any other way of knowing it? If so, that way also must be within the reach of thought. Thus thought is the only way by which we know and can know that a thing can exist otherwise than for thought. Now can thought enable us to know such a thing which can exist beyond and outside itself? By asserting that a thing can exist otherwise than for itself, thought puts an absolute limit to itself; but, as soon as it puts that limit it transcends it and forthwith passes over to what lies beyond the limit, i. e., to the thing supposed to exist otherwise than for thought. Therefore no thing can exist otherwise than for thought. Here one very important thing should be noted carefully. The word "thought" as used in this argument is not the discursive thought—the actual thinking process that goes on in any man's mind when he thinks about something, for that thought is always limited by its data or premises which are "given" to it: thought as used here is therefore the universal Thought or the Universal Thinking Principle that works and realises itself under finite conditions in man; the discursive thought or the actual thinking

process in any one's mind is only a passing and a temporal phase of that universal Thinking Principle, otherwise called the Absolute or God. The difficulty of Green and his follower (in this respect) Pringle-Pattison, mainly rests upon the confusion between these two kinds of thought, and this is more explicit in the quotations from Green's *Works* given in Pringle-Pattison's foot-note.

Now take the second instance of the confusion: The two propositions supposed to be confused are these: (a) no object can be conceived as existing except in relation to a thinking subject; (b) it cannot exist except in that relation. The truth of the first proposition cannot be denied, for the very denial asserts its truth. An object, in so far as it exists at all for us, exists as known by us, must be in relation to the knowing or conceiving subject. This does not, of course, imply that all objects are known by us and thus exist for us. There are numerous objects which exist outside the range of our present knowledge, and will perhaps exist so however much progress our knowledge may make. But that does not imply that there is any absolute limit to our thought or knowledge, that there is a limit within which our thought or knowledge must move which it cannot transcend. We cannot say that there are things which are unthinkable and unknowable, which are beyond our power to be grasped and penetrated. Similarly, we cannot say that things can exist wholly beyond the relation to our thought, or knowing principle. For the contrary supposition would put an absolute limit to our thought, which is impossible. Here, too, the difficulty of Green and his follower arises out of the confusion between two kinds of subjects—between the finite subject like ourselves, and the Infinite or the Absolute Subject which works and realises itself in and through us, of which we are only finite and imperfect

centres of manifestation. If we understand the nature of the subject in this way we find that the existences of subject and object are bound up with each other, and are inseparable, so that we can safely and without any confusion say that "no object can be conceived as existing except in relation to a thinking subject" and also that it cannot exist except in that relation. This conclusion incontestably proves that thought and reality, subject and object, mind and matter, are ultimately identical, or, in other words, all things and beings are differentiations, modes or moments of one Absolute Reality called simply the Absolute or God, so that the difference between them is relative, not absolute, and their independence is likewise so, and that, therefore, the universe is completely spiritual or rational, i. e., there is nothing in it which is completely irrational or non-spiritual: or, in other words, everything is a spirit or soul.

Secondly, the above conclusion shows the reason why "when we try to conceive or think ourselves into the mode of being of anything to which we attribute concrete existence, we inevitably do 'think ourselves' into it; we construct it on the model of our own self-centred being, though it may be at many removes." Pringle-Pattison's second difficulty arises from his inability to think the environment as something other than the physical or non-spiritual. I fail to understand why we shall "lose the idea of environment in the sense in which it seems to be involved in the existence of a finite spirit," if we conceive it to be rational or spiritual. He admits that at least a part of the whole environment, to wit, the social environment, is rational or spiritual; but he contends that even the social environment is, finally, based upon the natural. For "spirits, for their individuation, self-expression and inter-communication, appear to require bodies and the

system of nature in which these bodies are rooted; and to resolve these bodies and the whole material world into little minds is the beginning of an infinite progress. These little minds in turn imply some medium in which they are shaped and through which they can act." It is true that spirits require bodies and the system of nature for their individuation, self-expression and inter-communication, but if we reduce, as we have reasons to do, those bodies and the system of nature to spirits and the system of spirits of different grades and at many removes, they will also be able to serve exactly those purposes that they serve when considered as physical or non-spiritual. It cannot be proved that such a reduction does necessitate the annihilation of their essential nature; they remain what they are, but are now only viewed in a different light. I fail to understand why such a reduction will involve an infinite progress. It is true that these little minds will require a medium for their individuation and action, but this medium need not be physical or non-spiritual; it will serve the same purpose and perform the same function, if it be a spirit or mind in some form. If our conclusion that everything is a spirit or mind of some particular grade is true, the medium which a spirit requires for its action and individuation is also a spirit or mind. Panpsychism, when properly understood, is not the theory that teaches that everything has a soul or mind associated with a physical body and placed in a system of physical nature, but is the theory that positively and expressly affirms that everything is a soul or mind, leaving no room for anything whether or not connected with a soul or mind, that may be called physical or non-spiritual. But we should here guard ourselves against one misunderstanding. When panpsychism says that everything is a soul or mind, it does not mean that a soul or mind is not associated with a body, but that this body

is an inferior kind of soul or mind, i. e. of a different grade. Thus man has a soul or mind associated with a body which is a far inferior kind of soul or mind; similarly, each monad has a soul or mind connected with a body which is a far lower kind of soul or mind, and ultimately a body may possess the lowest kind of spirituality such that it does not and cannot require any other body for its action and individuation.

We may therefore conclude that panpsychism, when rightly understood, is a sound theory, and the theory that explains the world more satisfactorily than any other. The positive grounds on which panpsychism rests were first described in the Upanishads. The Upanishads assert that there is only one ultimate reality, to wit, the Brahman, or the Infinite Self of which everything else, mental or material, found in the universe, is merely a particular differentiation—a partial manifestation or reproduction. But this particular differentiation is eternal and unchangeable. Of course everything has a history—everything passes through a course of changes, but this history or course of changes, taken as a whole, remains eternally unchangeable. In this sense everything, whether mental or material, remains eternally distinct from the Infinite Self, though at the same time eternally related to Him. Or, in other words, the finite and the Infinite, the relative and the Absolute, are eternal correlatives, and therefore neither of them can exist apart from the other. From this it is evident that the Brahman is an organic Whole, which contains within Himself all objects, relating them with one another and with himself without at the same time annulling their distinction. Hence everything, even a stock or a stone, is a *jiva*, i. e., a person from a particular point of view, because the whole—the Infinite Self—is present in each, whole and undivided, as the whole mind of

man is present in each of his mental states, in a unique manner. That such is the gist of the teachings of the Upanishads and the Vedanta, is admitted by such eminent commentators as Ramanuja and Nimvarka, although Sankara differs from them by holding that the Upanishads and the Vedanta teach that the Brahman is the only reality, while everything else is an illusive evolution of Maya or Nescience, though in practice considered also as real.

In the West, Spinozism is the earliest theory that most approaches Vedantism. Though according to some it is pure pantheism (*cf.* Pollock and Martineau), let there is another and perhaps a sounder interpretation according to which Spinozism approaches panentheism, maintaining that every determination is not mere negation, but also contains a positive element in the form of an impulse towards self-preservation and self-realisation, and that such an impulse is the Absolute as expressed in and through that determination or mode. Thus, in every finite mode the Absolute is present, whole and undivided, and expresses itself in a particular way. (*Vide* J. Caird's *Spinoza,* Ch. IX). Spinozism has evidently identified the Absolute Substance with God and attributes self-consciousness and thought to it. (*Ibid.,* pp. 301-02). Thus, each mode in which the self-conscious Substance is present and expresses itself, must itself be self-conscious in however imperfect a form it may be. In other words, every mode or everything is a self.

This point has been thoroughly expounded and emphasised by Hegel and the Neo-Hegelians, e. g. John and Edward Caird, and also the late Prof. T. H. Green. I have already given a summary of their views above. Edward Caird remarks: "There is a sense in which every idealist must admit that the only object of mind is mind.

Every one who holds that the real is relative to mind, and therefore, that the difference between mind and its object cannot be an absolute difference, must acknowledge that whatever is real (and just so far as it is real) has the nature of mind manifested in it. Reality cannot be alien to the subject that knows it, nor can the intelligence comprehend any object except as it finds itself in it."[8] But Caird contradicts himself by asserting that "it is not necessary to infer from this that every object, which is in any sense real, thinks or is a thinking subject." Here he has evidently forgotten what he has said before. If the only object of mind is mind, how can it be anything else? If the Absolute is the organic unity of its differentiations, as he admits it to be, is it not present whole and undivided in each of its differentiations? If the Absolute were merely a mechanical aggregate of the differentiations, it would be possible that each differentiation, being completely isolated from the rest, would be a mere object; but each being an integral part of an organic whole, is necessarily and inseparably connected with each of the other differentiations and with the whole. Such being the case, each differentiation must partake of the nature of the whole, and thus be a self-conscious thing. But this does not imply, as Caird thinks, that nothing exists but selves and their states; what it really means is that everything is a self or subject from its own point of view, and an object from the point of view of another; or, in a word, everything is a subject and an object at the same time from different points of view. Again, every self itself can be the object of its own thought, that is, is a subject-object. Thus, everything is equal to a self, is equal to a subject plus its objects, the latter including the subject itself. This evidently shows that what really exists are not minds and

[8] *Evolution of Theology in the Greek Philosophers,* Vol. I., p. 193.

their states, but minds and their objects. It may be objected that if the whole is present undivided in each object, it is perfect, but our common experience shows that it is imperfect. But deeper consideration shows that every object is both perfect and imperfect from different points of view. An organic whole cannot be divided into parts such that each part is an isolated fragment, because in that case the whole will be only a mechanical aggregate of the parts, and need not be present in each of them. So that the relation between an organic whole and its parts must be such that the whole must be present in each part and each part must be present in the whole. Therefore, in so far as a part is merely a part, it must be limited and imperfect; but, again in so far as the whole exists in it, it must be unlimited and perfect. Or, in other words, each part is a centre in and through which the whole works and realises itself, just as each mental state is a centre in and through which the whole mind works and realises itself.

McTaggart is more emphatic on this point: "We are forced back," he observes, "to the conclusion that it is necessary that in some way or another the whole of the unity shall be in each individual, and that in no other way can the individuals have the requisite reality. Yet, ... to suppose that the unity exists in the individuals as isolated is to destroy the unity. The unity must be completely in each individual. Yet, it must also be the bond which unites them. How is this to be? How is it possible that the whole can be in each of its parts, and yet be the whole of which they are parts? The solution can only be found by the introduction of a new and higher idea. The conception which, according to Hegel, will overcome the difficulties of the category of Life, is that of a unity which is not only in the individuals, but also for the in-

dividuals. There is only one example of such a category known to us in experience, and that is a system of conscious individuals. Thus the unity is at once the whole of which the individuals are parts, and also completely present in each individual.—We may sum up the argument as follows:—The Absolute must be differentiated into persons, because no other differentiations have vitality to stand against a perfect unity, and because a unity which was undifferentiated would not exist."[9]

Panpsychism, therefore, is not an unnecessary or superfluous hypothesis, as Pringle-Pattison holds, but the most sound and satisfactory theory that has been formed by human thought for the explanation of nature. But to avoid misunderstanding we must hold, as I have said before, that panpsychism, when properly understood, is not the theory that teaches that everything has a self or soul connected with a body which is not itself a self or soul, but physical or non-spiritual in nature, but that everything is a self or soul, leaving no room for anything which may be called physical or non-spiritual; that everything may be a complex structure containing elements having different grades of spirituality, and that in this sense the central element which has a comparatively higher grade of spirituality may be called a soul in a restricted sense, while the other elements having lower grades of spirituality may be collectively called the body. Such a theory will give quite a new view of the universe; the universe will appear, not as a collection of things, some of which are spiritual, and some non-spiritual or physical, i. e., wholly distinct from and opposite to the spiritual—some are souls or selves and some are bodies—but as a system or whole of selves or spirits possessing, of course, different

[9] *Studies in Hegelian Cosmology*, pp. 13-17; for a fuller statement of this point see the whole first chapter of this book. A closely analogous view is set forth by Dr. A. E. Taylor in his *Elements of Metaphysics*, Bk. III, Ch. II.

grades of spirituality, or manifesting themselves in such widely diversified ways that they appear to us to have widely different grades of spirituality. But, still, everything is a person, that is, possesses self-consciousness and will, knowing the world and acting and reacting upon it from its unique point of view. Thus panpsychism does not abolish the environment or the medium through which the self may act and react upon another self, but simply emphasises the fact that the environment or the medium is not something absolutely distinct from, and opposite in nature to, the self, but is itself a kind of self, though possessing a far lower grade of spirituality.

A. K. Majumdar.

RELATIVITY IN LOGIC

ONE of the most interesting suggestions made in connection with modern symbolic logic has been put forward by Prof. C I. Lewis. For him, there is not one but many possible systems of logic, each valid within its own domain. A somewhat similar attitude towards logic, though based on different grounds, has been expressed by Santayana in his recent *Realms of Essence*.

It is by the discussion of the primitive ideas of (1) *implication* and (2) *truth and falsity* that I shall try to show some grounds for this contention. In the first part of the paper a distinction between two fundamental types of logics will be made. In the second part the necessity for a propositional analysis of logic will be discussed, and a justification for the generalization of the concepts *proposition* and *truth* and *falsity* will be advanced. In the third part a schema will be presented for the ready apprehension of the nature of one of the logics discussed in part one, and a wide variation in the interpretation of the kind of implication that it employs will be there indicated.

I

In his discussion of the logic of internal and external relations,[1] G. E. Moore made a distinction between an internal and necessary connection, and an external or factual one, using the term "entails" to express the former, and

[1] *Cf.* "External and Internal Relations" in *Arist. Soc. Proc.*, 1919-20, p. 53.

"implies" to express the latter. The distinction had already been recognized by Whitehead and Russell in the first edition of their work (Principia Mathematica) though a distinction in terminology was not made. It is there said[2] that the assertion sign before the propositions is required "for distinguishing a complete proposition which we assert, from any subordinate propositions contained in it but not asserted." It was only the asserted propositions which were said to be true and certifiable on logical grounds alone. Using Moore's terms we shall say that the asserted propositions involve an entailment, while those propositions which are only "considered" involve an implication.

Such a distinction between implication and entailment is not on all fours with a distinction between contingent and necessary relations. Though the considered propositions involve an empirical connection between the constituents, each of which must be known separately and extralogically, while the asserted propositions depend on no empirical data for their validity, both may be necessary. When a proposition is asserted, an entailment is used to connect truth-value or truth-functions[3] which are in some sense interdependent; when considered, an implication is used to connect entities which *may be* interdependent. Though one might not be able to say in any given situation whether it contained a necessary relation, such empirical data are indifferent to its presence. Such a relation might be represented by what Prof Lewis calls a strict implication[4] and when employed in a logic would itself have to

[2] p. 8.

[3] A truth function is a function of propositions whose truth or falsity depends only upon the truth or falsity of the constituent propositions. (*Prin. Math.*, p. 8.) Thus 'P and Q' is a truth function of P and of Q, and is true if both are true, and false otherwise. 'P or Q' is true if either P is true or Q is true and is false otherwise. The truth-value of a proposition is defined (p. 7) as truth if the proposition is true and falsehood otherwise.

[4] *Survey of Symbolic Logic*, p. 293.

The truth-value of a proposition is defined in the *Principia* (p. 7) as truth if the proposition is true and falsehood otherwise.

be distinguished from strict entailment. Though both expressed necessary connections it would be only the latter which would be treated in a strictly formal logic, and asserted without recourse to experience or extra-logical knowledge. There are thus four ideas to be distinguished: (1) implication or a correlation between independent entities; (2) entailment, or a correlation between truth values or truth functions to yield a tautology; (3) strict implication, or a necessary factual correlation between entities; and (4) strict entailment, or a necessary correlation between truth functions,[5] to yield tautologies.

As has been pointed out by Prof. Lewis,[6] the use of the term implication in sense (1) is somewhat strained. In ordinary parlance implication means 'necessitates,' denoting that "relation which is present when we 'validly' pass from one assertion, or set of assertions to another assertion, without any reference to additional 'evidence'." If it be true that there is a 'proper' meaning of the word, and that this is its proper meaning, then a symbolic logic which uses a different one, though it may be internally coherent, will not yield a criterion of ordinary inference.[7] If it achieved its theorems by the employment of postulated methods of substitution in the postulates or their derivatives, or by the consistent use of its arbitrary notion of inference on these postulates, it would be a system which would be unexceptional on its own grounds, but not necessarily applicable to what is usually considered as trains of reasoning.

If it be recognized that a logical system need not have

[5] There is a further distinction between implication as functioning between individual elements and between classes or groups of them—the latter being a "formal" implication. The formal implication, however, is a derivative from (1) or (3) and throws no light on our discussion.

[6] *Survey*, p. 324.

[7] See also W. E. Johnson's discussion of the meaning of the paradox that a false proposition implies any. *Logic*, Vol. 1, p. 45.

an application and that non-applicable systems are as much the logician's study as the different possible geometries are the mathematician's, it will soon be evident that there is more than one such system. However, just as non-Euclidean geometries are not distinguished from the Euclidean on the basis of their applicability or lack of applicability to our perceptual or physical space, the different systems of logic should be differentiated on some other ground than their possible application to our usual 'legitimate' trains of reasoning. It should be indifferent to a logician whether his system can be used. The differentiation between the kinds of implications makes it possible to speak of "accidental" and "necessary" logics. It is to the former class that the system developed in the *Principia* belongs. It, like the other systems to be mentioned in part three, makes the assumption that a given proposition has properties which do not affect the properties of any other proposition. By following this idea through consistently Wittgenstein developed a metaphysics where "superstition was the belief in the causal nexus" and where any one fact "can either be the case or not be the case and everything else remain the same." All relations for Wittgenstein, apparently, are external and contingent.

I have so far distinguished a correlation between facts, from a correlation between truth-values and/or truth-functions. I have pointed out the possibility of differences in the interpretation of implication, using the notions of necessity and contingency as fundamental, thus securing two types of logic—"necessary" and "accidental." Lewis' and MacColl's systems are in the former class; the *Principia* is in the latter. No disparagement is involved in the distribution of the names.

It has often been contended that strict entailment is simply formal implication or that it is identical with entail-

ment as employed in the *Principia*. If this be true, it would not involve the elimination of strict *implication* for there is a difference between a factual relation between independent elements and a factual relation between interdependent ones, and thus between material and strict implication. It would make the only difference between these logics consist in their applicational range—one applying to necessary facts, the other to contingent.

II

The systems of both Whitehead and Russell and of Lewis treat of (1) the truth and falsity of (2) propositions and what is derived from propositions by a process of generalization. In Lewis' system (as well as that of MacColl's),[8] a third truth-value is introduced, that of impossibility, which when combined with the other two gives an infinite number of possible truth-values. The accidental propositional logics, so far developed, all restrict themselves to only two truth-values, defined as mutually exclusive,[9] expressing the truth or falsity of any proposition treated. They are what C. S. Peirce would call dichotomic logics.

There is no necessity for a systematic logic to restrict itself to two truth-values, or if only two are considered, to the two values, truth and falsity. Passing over the first point, which is one of the bases for the systems of MacColl and Lewis, and referring only to the two truth-values accepted in the other systems, it should be evident that any two properties defined as mutually exclusive would do just as well as truth and falsity, for the purposes of a symbolic logic. The truth that concerns logic is not the

[8] *Symbolic Logic and its Applications*, p. 6.

[9] It is one of the paradoxes of modern logic that one of the exclusive classes may be contained in the other.

truth of its elements but the truth of a tautology. In a system where we dealt only with say, reality and non-existence, and where any of the four possible combinations of a real with a non-existent entity would itself be real or non-existent, a perfectly definite dichotomic logic in which these were tautologically correlated would be possible. The entailment of any of the entities by any of the others would of course make it possible to say, "it is *true* that such and such a connection holds." That statement would not be part of the connection any more than the assertion sign is part of what is asserted. Thus Russell in "Appendix C" of the second edition of the *Principia:* "When we say that truth or falsehood is for logic the essential characteristic of propositions we must not be misunderstood. It does not matter for mathematical logic, what constitutes truth or falsehood; all that matters is that they divide propositions into two classes according to certain rules."[10] "We are concerned only with those combinations of propositions which are true in virtue of the rules, whether their constituent propositions are true or false."[11] Inasmuch as it doesn't make any difference what constitutes truth and falsity, or what truth-value a constituent has, as long as there are two classes and tautologies are possible, one should be able to employ variable notions instead of constant ones for truth-value and truth-function. Accordingly, I shall substitute a variable for truth-value. and get *property-value,* which is a variable for the category in which every entity in the logic either is or is not. General logics may be distinguished in terms of the values they assign to this variable. In the same way, for truth-function, we substitute a variable and secure *compound.* A *categorical value* would be the value of any complex of

[10] p. 660.
[11] p. 661.

entities,[12] combined through the medium of logical constants alone, which value was a function of the property-values of its constituents. It is not necessary that a categorical-value be of the same kind as the property-values (or their contradictories) of the constituents of the compound. Thus the combination of an impossible with a necessary entity might yield a compound whose categorical value was falsity.

Truth and falsity have been considered as fundamental logical property-values primarily because the basic unit of language has been taken to be a proposition. Only propositions are said to be true or false, and as the propositional analysis seems to make possible the clarification of mathematical concepts, which is the express purpose of a symbolic system, a true-false propositional logic was inevitable. But if a dichotomic or two-valued logic requires nothing more than two categories to distinguish its elements, the insistence on the propositions as the fundamental units should disappear with the denial of an exclusive interest in truth and falsity.[13] There must, of course, be propositions *of* logic, for logic in one sense is a language, but these propositions *of* logic need not refer to propositions or only to certain characters of them. Logic might very well start with an analysis of the relations of essences to one another, and the different logics could be different tautological dialectics of the realm of essence. A logic after all does not have to say, "if this is *true*, then tautologically that is *true*, but simply "if such and such, then tautologically such and such." Statements of both kinds are propositions *of* logic and have logical truth. The truth of correspondence, which may be said to be the character of a

[12] I anticipate the substitution of "entity" for proposition to express the content of the system.

[13] This is not an insistence on a return to the Boole-Schroeder algebra but a plea for an analysis in terms of other entities than language or "thought" units.

non-logical proposition is only one of many properties that can be correlated in such logical propositions. We do have a habit of speaking of the "truth that this is such and such" but the distinction between the such and such, and the truth should be apparent. It is the *such and such* that should be emphasized and not the *truth* that it is a such and such though truth itself could be one of the such and suches. The fact of Washington's crossing the Delaware which has nothing to do with correspondence, propositions, judgment or assertion, excludes other facts. Though we may not be able to deal with it except in terms of a proposition, such an application should be irrelevant to a science interested in mapping out abstract possibilities. By holding to the proposition as the unit for logic, Wittgenstein was compelled to view it as a picture of facts, whose relation to them was unstatable.

By substituting variables for truth-value, truth-function and proposition, we secure property-value, compound categorical-value and elements. In accordance with the values which any systems impose on these variable different specific applications of logic are secured. A general logic would be one of a group of logics with the same number of property-values and categorical values all of which were specific determinations of these variables. The *Principia*, insofar as one is interested in a two-valued logic, might still serve as a general form for the entire class of such logics, simply by ignoring the entire introduction. The Introduction would be an obiter dicta, expressing two logicians' fancy.

III

Taking any two elements and two property-values, their combination yields four basic compounds. We restrict ourselves to two elements for convenience's sake,

though what is said of two will hold of any number. Two property-values only are dealt with, for that will be sufficient to illustrate the fact that a number of logics are possible. To enable a ready comparison with the *Principia* P and Q will be used to symbolize elements, and T and F the property-values, though as has been indicated, the elements need not be propositions, nor the values truth and falsity. The four compounds are: (1) both T and T; (2) and (3) one T and the other F; and (4) both F, expressed in the following table:

P	*Q*	*Compounds*
T	T	P. Q
T	F	P.—Q
F	T	—P. Q
F	F	—P.—Q

Thus when P is T, and Q is F, we have the compound P.—Q, with—Q as the negative of Q. (The dot represents conjunction.) By making selections from this set of four compounds sixteen combinations of compounds are possible. Every logical combination of two elements, as well as each element individually, is expressed by one of the sixteen selections from this set.

A much simpler way of building up these various compounds has been indicated by Prof. Sheffer.[14] He takes as a primitive idea 'p is incompatible with q' expressed as p/q. By substituting p for q, and q for p, we get p/p and q/q. Substituting either one of these or both for p or q in the primitive idea, we secure four compounds—illustrating what is meant in the *Principia* by negation, implication, disjunction and conjunction—p/p; p/(q/q); (p/p)/(q/q) and (p/q)/(p/q). By proper substitutions in these four all the compounds with p and q can be developed, so that only one primitive idea and the principle

[14] *Cf. Trans. Amer. Math. Soc.*, Vol. XIV, p. 481.

of substitution are necessary in order to secure all the compounds in that system. This method, though symbolically convenient, however, does not show clearly the interrelationship between the different compounds nor indicate the difference between implication and entailment; and as the purpose of this paper is exposition rather than the achievement of symbolic efficiency, I shall use a more cumbersome but psychologically more evident method.[15]

We first assert all the four compounds disjunctively and deny in turn first, each one, then combinations of two, combinations of three and finally all, thus securing the following set. This is a schema which has been employed by Wittgenstein[16] though some changes in the arrangement have been made to bring out the symmetry.

		TRUTH FUNCTION				Denies
(A)	TTTT	P.Q v P.-Q v -P.Q v -P.-Q				(Z)
(B)	FTTT		p.-q	-p.q	-p.-q	(O)
(C)	TFTT	p.q		-p.q	-p.-q	(N)
(D)	TTFT	p.q	p.-q		-p.-q	(M)
(E)	TTTF	p.q	p.-q	-p.q		(L)
(F)	FTTF		p.-q	-p.q		(K)
(G)	FFTT			-p.q	-p.-q	(J)
(H)	FTFT		p.-q		-p.-q	(I)
(I)	TFTF	p.q		-p.q		(H)
(J)	TTFF	p.q	p.-q			(G)
(K)	TFFT	p.q			-p.-q	(F)
(L)	FFFT				-p.-q	(E)
(M)	FFTF			-p.q		(D)
(N)	FTFF		p.-q			(C)
(O)	TFFF	p.q				(B)
(Z)	FFFF	-(p.q).-(p.-q).-(-p.q).-(-p.-q)				(A)

[15] Russell in the introduction to the second edition employs Sheffer's stroke-function, but as the derivation of the various truth-functions from p/q was not made entirely clear, I have thought it best to state it explicitly.

[16] *Cf. Tractatus*, 5:101.

The definition of implication as employed in the *Principia Mathematica* is expressed by (C); material implication being simply the statement that one or the other of the three compounds holds and that (N) or p.q fails. Whenever any set of compounds is contained in the others, the first is said to entail the others. Thus (J) which says that p holds is contained in (A), (D), and (E), so that p entils 'por -p', 'q or -q', 'q implies p,' and 'p or q.' As (J) contains (N), (O), and (Z), 'p-q,' 'p.q,' 'p.-p,' and 'q.-q' entail p, and as it contains itself, p entails p. The propositions of this logic are thus seen to be tautologies, for the entailment unites a part of a disjunctive set with the whole of the set. Or more evidently, if the part be denied and its contradictory disjoined with the whole we get (A). Thus (J) entails (D); -J or G equals (-P.Q v -P. -Q) (i. e. not P) which when disjoined with (A), (D), or (E) is (A) or a redundant expression of it.

If instead of taking (C) as our definition of implication we had taken (B), in exchange for the paradoxes of the *Principia* where a false proposition implies any, and a true proposition is implied by any, (interpreted propositionally), we would get: a false proposition implies and is implied by any; a true proposition implies and is implied only by a false proposition. The entailment is the relation of a truth-function with one which does not contain it, so that (J) entails (G), (L), (M) and (Z), i. e., p entails '-p,' '-p.-q,' '-p.q,' '-p.q' and '-q.q.' The rule of inference in the system is: if p is true, and p implies q, then q is false. It is to be noted that the theorem: —(P entails —P) entails that —(P entails —P) entails (P entails —P), holds, which is to say that if any theorem in the system be denied then that denial entails that the denial entails the truth of the theorem. The logic is thus internally coherent.

By varying the definition of implication fourteen systems are possible. (A) or tautology is eliminated because it permits all connection and (Z) or contradiction because it permits none. Each of these systems is self-consistent and tautological and thus a "logic" being capable of statement in terms of variable elements and logical constants alone. Most of these systems will have no use, as they involve connections which are unfamiliar. In addition, all of these systems can be related to one another by means of a transformation formula, for what is implication in one of the systems is simply equivalence, disjunction, negation, etc., in the other. (B) for example in system (C) is (-P v -Q). Which one should be taken as basic is a matter of extra-logical choice.

Relativity in logic is thus seen to be relativity in notation or in the definition of implication. The fact that the familiar laws of logic (contradiction, excluded middle, etc.) are invoked to permit the discrimination between elements, values, functions, etc., points to an absolute logic over and above the symbolic statements. One can never include in the system the principles of conditions which determine it. This is one of the real meanings of the theory of types,[17] and is as old as Aristotle. Relativity in logic does not mean, therefore, a Schillerian scepticism, but simply a freedom in choice of expression.

[17] *Cf. "The Theory of Types," Mind,* July, 1928, p. 344.

Conclusion

Implication, when not defined as a necessary relation holding in any context, may be defined as any one of fourteen correlations between the members of two classes, or more accurately, between elements which have one or the other of two property-values. This takes care of the 'accidental' logics only. Entailment functions between

part and whole. Truth and falsity are only two of an indefinite range of properties which can be employed, while the proposition is only one of an indefinite range of elements. A variation in the values for the implication, categorical-value, and property-value, gives a wide range of possible applied or general logics. A logic which includes more than two properties may contain a two-valued logic. The *Logic* has an infinite number of elements capable of an infinite number of property-values. It can never be expressed.

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EGOISM

I

WHEN Little Jack Horner gratuitously announced his goodness to the world at large; and when, too, the fictional ever-living Sir Willoughby Patternec straightened his whole figure to the erectness of the letter 'I' and shortly after unbent to allow his military letter I to take 'a careless glance at itself lounging idly and proudly at ease in the glass of his mind'; each, in his way, exemplified by his behaviour a deep-rooted, necessary and ineradicable human trait.

To try and explain this trait by reference to biological necessity or to psychological tendency shows how inadequate are the categories of any science, even when most widely and sympathetically interpreted, to the task of throwing light upon the complex workings of mind. And in the sequel it will be seen that only by taking into account the complete nature of man as an organic unity that defies abstraction except in the interim-stages of the progress of knowledge through the alternations of analysis and synthesis can we expect to find a solution to so deep a problem as that which is occasioned by the fundamental characteristics which in their developed form we call egoistic.

We will approach the problem of egoism by considering some characteristics of child behaviour. It is sometimes said that children are egoists *par excellence*. This is only

so if the term is used in an extension by analogy beyond its proper meaning. Children behave *as if* they were egoists, but are not egoists. When an infant howls the house down or bangs on the table with its spoon it does so to attract attention to itself. Being unable to talk it uses signs other than language to convey its meaning. It is vital to it that its meaning be correctly understood, and it will continue to assert itself until this happens. By creating an intolerable situation it wins its way as the incidental outcome, it may be, of its elders' effort to remedy the present discontents. Itself unhappy, it communicates its unhappiness to others who are well able to look after themselves. They, by restoring their own happiness, restore that of the infant who could not do it itself. I do not say that this analysis of an all too frequent event holds good of every instance. It manifestly does not. If it did it would reduce maternal solicitude, for example, to blameworthy egoism. But that it does sometimes so happen is sufficient for the argument. The infant gains its end by making itself a nuisance. It behaves *like* an egoist. But it would be as far-fetched as it would be unwarranted to attribute to the young child the least inkling of the true state of affairs. It so happens that the child profits by someone else's effort to make the unbearable bearable. It also so happens that the child was itself responsible for making things unbearable. But the child did not do this purposely, of malice prepense. But finding its cries successful, it cries again next time; yet it is still unaware of the cunning which some psychologists place to its credit. It has no more foreseen the end and devised a means than has the animal whose coat turns to protective white in winter. We say that it changes its coat, but we know better.

The child is not an egoist because it is not a self. Its

activities are sporadic and impulsive. It has no organized interests, as William James puts it. It is without a will. Egoism is constituted by the attitudes or dispositions which have as their conscious end the advantage of the personal self. What exactly, then, is "the problem of egoism," as Meinong has called it? Briefly it may be put in the form of a question, How does it come about that one and the same self, that regulates its separate interests also subordinates its self-interest to that of an alter? Or slightly otherwise, how explain the egoistic and the altruistic tendencies or dispositions within one and the same self? The problem has a long history, (as old as the book of Job, says Ward,) into which it is needless and impossible to enter. But we cannot afford to neglect Plato's Republic, as it bears directly upon the subject. I suppose that no one who has studied the Republic seriously has not at some time or other doubted the soundness of the conception of the state as a sort of self writ large. Now the procedure seems defensible, now indefensible. At one moment the parallel appears to hold good, at another we doubt its validity. It is not until we recognise two different ways of regarding the self that we can put our finger on the spot and account for our previous distrust. From the objective standpoint the parallel is obvious, "for the State is accorded predominance over members whose respective interests have to be organized to promote its own, just as the self-interest of the individual is held to be sovereign over its several impulses and desires. But from the subjective standpoint of psychology there is, strictly speaking, no such parallelism at all. Here there are no lesser selves within a greater self: it is one and the same self, that regulates its separate interests and also subordinates its self-interest."[1]

[1] *Cf.* J. Ward, *Psychological Principles*, p. 393.

We find it difficult to conceive of conflict within a harmonious, organized whole, because the mutual dependence of the constituent elements contradicts the idea of antagonism. Yet experience shows us that, however strong and compelling the evidence is for regarding the self as a unity, there is conflict. This conflict may take two distinct forms. In an ideally perfect self all would be harmonious and its activities would issue as the self-consistent manifestations of this harmony. But within the most perfect finite self, as we know it, there is contradiction. Conflict of motives is one form of self-contradiction. We cannot escape the intellectually unsatisfactory existence of opposition of duties. We are forced to admit that choice may sometimes lie between two actions, both of which are right and the motives good. Here, if anywhere, we do seem to be face to face with a fundamental self-contradiction that reason cannot comfortably accept. The other form that conflict may assume is that between impulses and desires that constitute warring elements against the organized fortification of the self, and the self so organized. To use an illustration where illustrations are dangerous, the first kind of conflict is civil war, the second just war. And yet, in another sense of the term self, both are forms of civil war, for our impulses and desires are ours and no one else's. From the subjective point of view, referred to above, the self is used in this wide sense of including all that belongs to it; from the objective standpoint the self is the organized self thought of as separate from the hitherto refractory impulsive tendencies that have not been subdued.

In considering egoism and altruism, with no reference to ethical aspects, from the subjective standpoint of psychology, we are dealing with the self that is already an organized personal self characterized by unity and con-

tinuity. And we have said that egoism is constituted by the attitudes or dispositions which have as their conscious end the advantage of the personal self; and that altruism consciously aims at the advantage of an alter. The "problem of egoism" is the reconciliation of these dispositions with one another within the single system that we have called the personal self. Is the need for reconciliation real or apparent? This depends upon our answer to the further question, Is the contradiction real or apparent?

Conceive for a moment a universe of finite selves each having as his conscious end his own personal advantage. Are we necessarily faced with a world of human beasts like the Yahoos discovered by Gulliver; by a world of hedge-hogs who do not even huddle for warmth; or even a world in which eudaemonistic shrewdness guides the refined cunning of men who are familiar with life and happy if they can *act* morally without *being* moral? Conceive, on the other hand, a universe of finite personal selves dominated solely by altruism. Would it be a vast unshakeable League of Nations or would it not more likely be typified by the two tennis players in Punch who, each remarking, "Your point, I think," proceed to smash up net, racquets and heads in a self-effacing effort to cede the point?[2] Is a world of altruists any more conceivable than one of egoists? There must be give and take, and in the *rôle* of givers we are altruists, egoists in that of takers. "Mutual dependence"—to return to James Ward —"more or less intimate is indeed universal, and to the extent of this dependence Ego has always an interest in Alter. Any action consequent on such dependence is how-

2 "Since the absolute ethic postulates an altruism which knows no limits and thus from its very nature would lead us to a type of self-sacrifice that would eventually make impossible either existence or action, it must come to a clear and decisive agreement with reality as to how far self-sacrifice shall have its own way, and how far the minimum of compromise demanded for the continuation of existence and action shall have a say in the matter." (Albert Schweitzer, *Civilisation and Ethics,* p. 161.)

ever, obviously egoistic, implicitly or explicitly. Can we, without assuming a breach of continuity, imagine this limit to be transcended?" We are back at a restatement of our problem. In one sense, as Ward has pointed out, all conduct is egoistic. Nevertheless some lines of conduct have long and generally been classed as selfish, others as unselfish, and yet others as neutral. Now whether or no all these lines of conduct be termed egoistic, there is a specific sense in which selfish is distinguished from unselfish. We thus must distinguish between the generic and the specific meanings of the term egoistic. All human conduct belongs to the genus egoistic conduct; within the genus are two species, egoistic conduct and altruistic conduct. But the term egoistic conduct has not the same connotation in the genus as it possesses in the species. It is unfortunate that verbal identity has concealed a real distinction. In the generic sense all conduct is egoistic because all value implies a valuing subject or Ego. Specifically, egoistic conduct is that which consciously aims at the advantage of the personal self. If this be so, then psychology alone can give no account of the way in which the egoistic limit is transcended, for deliberation about ends implies evaluation. The valuing subject or Ego may be considered psychologically; the process of evaluation, its origin, nature and development, may also be an object of psychological investigation. But attribution or apprehension of values lies beyond its scope.

It would be irrelevant to our discussion to open up the vexed question of moral standards, or moral standard,—absolute or relative? It is sufficient for our purpose to concede that society and 'morals', having arisen and advanced together, stand in a relation of mutual dependence. The main point is that if we are ever to begin to understand egoistic and altruistic conduct, we must look beyond

the early stages of individual development to the time when tendencies or potentialities have begun to work themselves out towards the realization of the self.

As an illustration of the error to be avoided we may take McDougall's account of egoism, and show how it is inadequate because it relies too largely upon a method of explanation which, by moving forward from the simple to the complex, seeks to throw light upon the more fully developed by reference to the less fully developed which, as being more simple, is thought to be more easily apprehended. Among the instincts McDougall places those of self-assertion (or self-display) and self-abasement (or subjection), which he classes as primary. These he hopes to have proved to have a place in the native constitution of the human mind. Proof, of course, must vary in its nature according to the character of the matter with which it deals. We do not look for mathematical demonstration in history, and proof within the sphere of an empirical science like psychology can do no more than take the form of inductive generalization based upon examination of numerous and diverse instances. This is McDougall's method. By showing cases in which this or that tendency is revealed he establishes the generalization. The generalization can never be more than a generalization; enumerative propositions can never be characterized by universality and necessity. But let us grant him to have shown these instincts to have a place in the native constitution of the human mind, remembering, at the same time, Kant's stricture upon a School of Philosophy which laid great store, complete store, by "the natural constitution of the human mind." "To say that some superior being had already wisely implanted within us such concepts and principles means subverting philosophy altogether."[3] Has this con-

[3] *Reflexion*, 1772. Quoted by Ward, *Study of Kant*, p. 42.

cession given us any help in solving our problem? All that we are told is that there are certain innate tendencies to action and that the particular nature of the activity will be determined, among other things, by the nature of the situation that evokes the response. Given certain conditions the emotion of elation, which is interpreted as the sign of the instinct of self-assertion, is felt; given certain other conditions and the emotion is that of subjection, the sign of the instinct of self-abasement. Let it not be thought that self-abasement lies at the roots of altruism. "All altruistic conduct has its roots and origin in the maternal instinct."[4] Perhaps I am prejudiced by my sex, but the unconvincing lengths to which McDougall is led to support his theory compel me to suspect the worst.[5] When facts get mutilated like the victims of Procrustes to fit the hypothesis-bed, Reason allies itself to the Oxford Professor who retorted against the argument that a particular theory was held because it gave intellectual satisfaction, that he would rather be intellectually dissatisfied than—stuffed! If we look closer at McDougall's account of the matter we find ourselves confronted with an array of examples, instances of these instincts. See how the peacock, symbol of pride, spreads its tail; how the pouter-pigeon displays its chest; how the child cries, "watch me!" On the other hand see how the dog slinks crestfallen with his tail between his legs; see how—but no, McDougall has run out of instances after expanding his first to a picturesque paragraph. It would appear that pigeons and peacocks are self-assertive and that dogs are self-abased, when the

[4] William McDougall, *Soc. Psych.*, p. 204.

[5] "This primary (the tender) emotion has been very generally ignored by the philosophers and psychologists; that is, perhaps, to be explained by the fact that this instinct (the parental) and its emotion are in the main decidedly weaker in men than in women, and in some men, perhaps, altogether lacking. We may even surmise that the philosophers as a class are men among whom this defect of native endowment is relatively common." *Ibid.*, p. 68 f. A weak and unconvincing surmise.

environmental conditions are conductive, and that their behaviour on all other occasions is such as to call forth no comment from the human observer. Have all animals, including man, all the instincts? Who can say? William James found nineteen, Trotter can only discover four. Can we really attach meaning to statements that go beyond the bare announcement that men and animals are capable of acting successfully in situations of which they have had no previous personal experience or warning? Accepting then the indisputable fact, undisputed by the most anti-intellectualist psychology extant, that man's conduct is a complexity in which reason plays a part, (what part is *the* matter of dispute,) in which egoism and altruism are fundamental contributing and characterizing elements, we will make a fresh approach to the problem that is still baffling us.

II

Let us now look at the problem in the dry light of reason, taking Aristotle as our guide. In the ninth book of the Ethics, chapter eight, he broaches the question of Φιλαυτία, or self-love. Plato, it will be remembered, in the Republic fails to recognize the social nature of Justice by making it essentially a relation within the self. Hence, the unconvincing quality of the parallel between the self and the state. 'Self-relation' says Aristotle, is not an accurate phrase. In effect, criticizing Plato's view, he admits that "by a metaphor we may say that there is justice —not between a man and himself but between two parts of him."[6] Notwithstanding this, he falls into much the same language when he himself comes to the question of self-love. It is unfortunate that supple thought must wear the straightjacket of language; it becomes a Disraeli-

[6] 1138b. 5-7.

blunder to mistake the shape of the jacket for the form of the contents. What do we enjoy when we enjoy a concert—what when we enjoy ourselves? How do we love our neighbour as ourselves? Aristotle falls into the same language; he cannot help himself. Does he fall into the same error? Friendship, he says, is characterized by disinterestedness and sympathy, and these are said to characterize the good man's relation to himself. He wishes and does the best for the intellectual element in him; he has most harmony with himself at a given moment; he has the most constancy from moment to moment. "It is because these relations exist within himself and because his friend is to him another self, that friendship is thought to possess these characteristics. Aristotle's theory here is an attempt to break down the antithesis between egoism and altruism by showing that the egoism of a good man has just the same characteristics as altruism."[7] Aristotle guards against the imputation that the self contains in any way static elements one of which sympathizes with or takes an interest in the other, by suggesting that the self is not a static thing but capable of indefinite extension,—a conception, we may note in passing, that finds favour with William James. "A man's ME, in its widest possible sense, is the sum total of all that he *can* call his, not only his body and his psychic powers, but his clothes and his house, his wife and children, his ancestors and friends, his reputation and works, his land and horses, and yacht and bank account."[8] A man may extend his interests so as to include the welfare of others as a direct object of interest like his own. But only the good man can do this. Usually the people who are reproached with self-love are those who take more than their due of money, honour, bodily pleas-

[7] W. D. Ross, *Aristotle*, p. 231.

[8] *Text Book of Psychology*, p. 177.

ures and those things that are competed for or fought about. But there is another form of self-love that ought to be encouraged with praise. It is the self-love of the good man who treats himself as he would his best friend. When a man has acted under the guidance of his reason he is thought to have done the deed himself, and of his own will. It is plain, then, that this part of our self is most truly our self, and that the good man more than any other loves this part of himself. He, then, more than any other, will be self-loving, in another sense than a man whom he reproaches as self-loving, differing from him by all the difference that exists between living according to reason and living according to passion, between desiring what is noble and desiring what appears to be profitable. The good man ought to be self-loving, for by doing what is noble he will at once benefit himself and assist others: but the bad man ought not; for he will injure both himself and his neighbours by following passions that are not good. Thus with the bad man there is a discrepancy between what he ought to do and what he does; but with the good man what he ought to do is what he does; for reason always chooses that which is best for itself; and the good man obeys the voice of reason.[9]

In this brief statement, mainly in his own words, we see how apparent is Aristotle's intellectualism. Reason is the most authoritative element in man, that which is most truly himself, that which the good man in acts of self-sacrifice is satisfying. The argument condenses down to this: If I aim at the good, and the good includes the good of others as well as my own good, then my egoism has the characteristics of altruism. Only in the good man, the man who obeys the voice of reason, is the reconciliation effected.

[9] *Cf. Aristotle, Nic. Eth.* IX, viii. I am indebted to W. D. Ross for the outlines of this re-statement.

While recognizing grave difficulties in the details of this account, I believe that Aristotle is on fundamentally right lines. His position needs expanding and modifying, no doubt, but it is along these lines of interpretation that the problem is alone soluble. We have defined egoism as that system of dispositions or attitudes that have as their conscious end the advantage of the personal self; altruism has as its conscious end the advantage of others. This presupposes a personal self, conscious of its activities, and consciously purposeful in behaviour; egoism and altruism, in short, only appear as characteristics of a relatively highly developed self, at the level of the ἕξις, as Aristotle would put it, of the formed character. "It is certain," as Albert Schweitzer says, "that the origin of Ethics is, somehow or other, concerned with the fact that something which is instinctively contained in our will-to-live is taken up and developed in intellectual fashion. But the great question is what this ultimate and supremely original part of our instinct-complex may be, which is developed by reflection until it reaches far over everything merely instinctive, and in what way the process goes on." That the ethical element has been declared to be merely a developed herd-mentality shows that the question of the relation of instinct and ethical reflection in ethics has not been probed to its foundations. "When Nature desires to form a perfect society in the animal kingdom she does not appeal to ethics, but endows the separate individuals, e. g. bees or ants, with instincts by virtue of which they renounce all real individuality in favour of the community. Ethics, however, is activity of the whole complex based on free reflection, which in addition is directed not only towards individuals of the same species, but towards all living beings in general. . . The passing over of egoism into altruism is inexplicable in any complete fashion if one

transfers the occurrence from the individual to the species. . . Real ethical altruism cannot be explained in this way. We may hang the fruits of ethics on the bush of social impulse, but it is not this bush which really bears them."[10] The reaction against an intellectualistic account of human behaviour and conduct has brought us to an *impasse* by stating our problem in an insoluble form. We cannot, except by metaphorical extension of the term, call animals egoistic. They may behave *like* egoists, but they are not egoists. Egoism is uniquely a characteristic of human beings, and reason being the differentia that distinguishes man from the other animals, any theory that grants an authoritative place to reason has at least an *a priori* claim to probability. This, of course, it must justify on other grounds.

It is precisely because reason tells me that my neighbour's good should be promoted without reference to my own personal advantage that I seek to make this possible. Also, I see my neighbour's good as immediately and directly as I see my own. Furthermore, it is because I sympathize with his good that reason approves of my contributing towards its realization, for unless I identified his good with my own (and this is only possible if I am what Aristotle calls 'a good man'), I should not deem his good to be something that should be promoted for its own sake. It is just this disinterested promotion of another's good that I myself find good. Yet my good and the good of others, i. e. the good of society, will only harmonise in an ideally perfect universe. Such a universe is, however, not acceptable to reason, for our mental constitution is such as to find its satisfaction in the continual resolution of conflicts which in its turn creates fresh conflicts.[11] But

[10] Albert Schweitzer, *Civilisation and Ethics*, pp. 158-9.

[11] *Cf.* William Hamilton, *First Lecture in Metaphysics*. "The last worst calamity that could befall man, as he is at present constituted, would be that

since reason provides an antinomy by seeking to establish a state of affairs that would mean its own destruction, harmony of interests, resolution of contradictions and elimination of conflict is not an inconceivable idea. For just as it would be foolish to speculate upon the effects of a world in which the grass were red without taking the possibility of adaptation into account, so the present conditions over which reason reigns cannot be thought of as changing radically independently of change in the nature of reason itself. What, if this be so, becomes of the rationality of the universe? To this question a further one may be asked in answer: What is meant by calling the universe rational? If, with Bradley, we make the absence of internal contradiction the criterion of reality, then we are forced into concluding that the universe, as known, does not give us a true picture, or an accurate representation, of its intrinsic nature. But the term intrinsic in this application is ambiguous. If a distinction is to be maintained between 'the universe as known' and 'the intrinsic nature of the universe,' then the term becomes equivalent to 'independent of a knowing mind.' But mind is but one element among many that falls within the universe and cannot, therefore, be set over against that of which it is an integral and inexpugnable[12] constituent. To think of the universe, then, as independent of mind leads to such philosophical monstrosities as Kant's *Ding an sich,* Bradley's Absolute, or Spencer's 'Unknowable'—all of which themselves involve internal contradiction by tacitly imply-

full and final possession of speculative truth, which he now vainly anticipates as the consummation of his intellectual happiness . . . and the man who first declared that he was not a σοφος, or possessor, but a φιλόσοφος, or seeker of truth, at once announced the true end of human speculation and embodied it in a significant name."

Numerous other instances of a like nature occur throughout the history of philosophy.

[12] I use this word for want of a better. The meaning is exactly expressed by the German *unabweisbar.*

ing that at least we know so much about them as to be able to characterize them as unknowable. But if, on the other hand, we start with a universe, one of whose essential attributes is that of being known (that it is not known fully or is 'known wrongly' does not affect the argument) then we are immediately confronted by all the contradictions in face of which reality is arraigned by Bradley and convicted of appearance. Are we then to acquiesce in a universe that reason finds to be riddled with contradictions? Such acceptance is alien from reason; and herein lies the paradox, that it cannot come to rest in that which it is continually bringing into being; in trying to resolve it merely aggravates what Ward has happily phrased as "the appalling amount of mutual implication (which) there is among our ultimate notions."[13] Metaphysical speculation is the product of mental development after it has reached a stage very distant from its primitive beginning, and the difficulties that have arisen and multiplied in number and complexity *pari passu* with the emergence and growth of reason seemingly grow more insuperable the more reason tries to cope with them.

Considerations of this kind throw light upon our contention that egoism is a human prerogative, unshared by the rest of the animal kingdom, for the discrepancies that set a gulf between altruistic and egoistic conduct are the results of thought discrimination made by reason in its effort to satisfy its own self-propounded inquiries.

The universe is first and foremost a sphere of action and only secondarily a sphere of thought. The motor mechanism which man and beast alike possess provides the fundamentally necessary means for maintaining existence independently of consciously self-initiated schemes. The promptings that lead to successful reaction or adaptation

[13] *Essays in Philosophy,* Essay III, "The Difficulties of Philosophy," p. 147.

are either reflex or instinctive and in the first case always, in the second more often than not, uncontrolled and uncontrollable by the organism's own higher centres. Responses to environmental stimuli take the form of action which will bring about material change conducive to the well-being of the organism. But of what constitutes this well-being or of the means by which it is effected the organism has no idea. Its reactions are not consciously purposive although they may have a teleological significance. Perceptual thought, too, is primarily subservient to action, and such epithets as intelligent and sagacious when applied to animals refer to behaviour. At the stage of intellection the course of thought, that even here would normally issue in action, may be arrested; and with this control by the higher centres come the inherent contradictions of reason. Below, (and possibly at), the level of perceptual thought there is no antithesis of egoism and altruism: it comes into being as a sophistication of reason at the higher reaches of conceptual thinking.

If, now, I were simply called upon to *act* in a situation that left no 'breathing space' between thought and action, my behaviour would take one of two forms; either it would be determined by instinct, (reflex action may be neglected in this context), or it would flash out as a reasoned response representing previous experience and thought about a similar situation. These two modes of response, quick-witted action on the one side, and impulsive on the other, must not be confused. But a 'lightning response' of reason is only a particular and rare form of all reasoned behaviour and may be as truly egoistic or altruistic as the most deliberate planning. This being so, we need consider only those instances in which there is a determinable hiatus between thought and action, for here, better than in those cases where thought and action show

unbroken continuity, is the antithesis most clearly discernible.

But before this can be done it remains to insist upon the rational basis of society, taking the term in the wide sense of a class or class of classes of human beings irrespective of the specific purpose, method and degree of organization. The word basis is used advisedly for rationality is not a logical accident. No greater set-back has been given to social psychology or sociology than the contemporary pernicious doctrine which emphasises a radical resemblance between a group of animals and a group of men. A herd of buffaloes, a school of herrings, a hive of bees or a pack of wolves bears not the slightest relationship to the most primitive group of wildest savages. Starting from the defensible premise that an animal group is homologous[14] with a human group, it is first argued questionably that they are analogous, and thence illegitimately to an identity of their essential elements. Such is the result of a biased adherence to the biological continuity of organic development and the consequent primacy accorded to genetic psychology, to the dangers of which reference has already been made. Genetic method puts its trust in being able to start from the beginning, but, as Ward has pointed out, this is not always possible or advisable.[15] And in this instance we must start from where we are, i. e. *in mediis rebus*. Fortunately we can do so without having to face the crucial question when and how reason, the distinguishing mark of the human mind, made its appear-

14 The term is used here in a sense borrowed from physiology to express similarity of structure in contrast to similarity of function (analogous).

15 "'Begin at the beginning' is a sound but commonplace maxim; and if it should be respected anywhere, it should—many think—be respected by philosophers. . . . In philosophy, however, this maxim is one—as it seems to me—that we can never observe; and the failure of all the many attempts to conform to it that have hitherto been made is strong presumptive evidence against all methods in philosophy that purport to be primarily direct and constructive." *Essays in Philosophy*, Essay IX, *"In the Beginning . . ."* p. 277.

ance, for, in the first place its determination is irrelevant to our topic, and in the second place, should it still be charged against us that we are shirking the issue, it is not too much to suppose that by starting from what is best known to us, *notiora nobis,* we may incidentally shed light on a problem which has defied solution from the other end.

Space does not permit to show in detail how reason is wrought into the very fabric of society, and our subsequent argument will assume that, granted all the primitive elements — instinctive, impulsive, non-rational — that in varying degrees and stages of modification, remain basic and common to animals and men and groups of both, human society manifests over and above them all a unique character that springs from the human possession of reason. Indeed, disbelief of this is as fallacious as the popular conviction which derives ultimately from the same source, that a man shows his true colours when drunk, i. e. when his critical faculties are numbed, when, in other words, his reason which, as Aristotle points out, is that part of a man which is most truly himself has been temporarily dethroned. The uncontrolled impulses, instincts and animal desires that then assert themselves are no more the man himself than is the unconscious ground-swell of unresolved complexes and repressions, all of which go to his making but are far from constituting his real nature.

In accordance with this conception of society we will start from the conditions as we find them and see whether the problem of egoism becomes less acute. In all my actions and in all my deliberations I find myself in situations of varying degrees of complexity that have come to be partly through my own initiative and largely through circumstances outside my power. I am thus compelled to make decisions upon courses of conduct in cases where the reasons for the different lines of action lie to a great

extent, sometimes wholly, outside my making or control, and I am left at the mercy of events within which the infinite ramifications of cause and effect in the unpredictable sphere of human freedom have created irreconcilable alternatives. This irreconcilability has arisen out of the nature of reason itself and reason in its turn again is compelled to restore a harmony. It may find this theoretically achievable by means of abstract thinking and by working back upon itself to a consideration of conditions that are now beyond change but not denied to thought. Such a reconciliation cannot have more than a metaphysical value and affords usually but a scanty clue to its practical realization. Now if society is to maintain its stability and effectiveness, the antagonism between the conceptions of egoism and altruism, like the many contradictions of reason of which it is one, calls for a practical as well as for a theoretical solution. And as this antagonism springs from the very nature of man in his social relationships, we must look here for a way of mediation.

Strictly speaking egoism and altruism are attributes of character and not of isolated actions, although it is true that, as each action issues from and is an index to character it to some extent carries one or the other of these qualifications. Whether an isolated deliberate action embodies principles of conduct or is an *ad hoc* measure makes no difference, for in either case it reflects the character of the agent. But it must be remembered that only in so far as there is an informing principle to give consistency to the actions which are its particular manifestations can there be a moral standard, and that it is this self-consistency that differentiates moral from casuistic conduct.

Now character in an individual stands for a fixity of purpose which in its social aspect becomes the unifying

principle that harmonizes the separate purposes of the heterogeneous constituents. This points to a final cause as being the unifying principle of society, and without staying to determine its exact nature, we shall call it 'the good.' We have thus been led round to the position that was adumbrated earlier, viz. that the reconciliation between egoism and altruism depends upon the harmonisation of individual goods with the good of society. It was said then that I see the good of society as immediately and directly as I see my own, and, it must be added, when reason tells me that it is a good thing to promote the good of society, I see immediately that it is my duty to do so, for the essence of duty is that a thing should be done simply because reason approves it.[16]

Altruism, therefore, like egoism has the approval of reason; and reason, inasmuch as it sees the good of others as immediately as it sees its own, appears to be divided against itself as an advocate of incompatible actions. And yet, on the other hand, it exhibits in its 'harmonizing' aspect a unity of conception in regard to and in spite of what, because imperfectly known, appear to be disharmonious and disparate facts.

[16] *Cf.* Hastings Rashdall, *The Theory of Good and Evil*, Vol. I, p. 41. It is just "the immediacy with which a conception of a thing as rational acts upon the will" that is challenged by those who relegate Reason to the task of directing pre-existing desires. They cannot agree that "the mere fact of a thing being irrational and as it should not be is a sufficient reason to a rational being for wanting to put it right."

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THE FOUNDATIONS OF ADLER'S ETHICAL PHILOSOPHY

I

DR. FELIX ADLER is, unquestionably, one of the leading ethical and religious teachers in America. He has founded and developed an ethico-religious organization which has achieved a prominent place in the religious and cultural life of a highly intellectual class of Jews and Christians who have found uninhabitable, for one reason or another, the general run of Jewish and Christian religious institutions. Religious people who would otherwise perhaps have no sanctuary where to rest their heads have found, in The Ethical Culture Society, a sanctuary not only where they can rest them, but a sanctuary where they can uplift them as well.

The Ethical Culture Society was, to a certain extent, for its earliest members, a place of refuge. And it still is a place of refuge for those who become converts after they have matured in a different religious or non-religious life. But there is also a younger generation which, if it is not definitely born into The Ethical Culture Society as Jews and Christians are born into their respective religions, at least is brought into the Society as soon as it begins to develop the first signs of religious or ethical spirituality. The Ethical Culture Society has perhaps not attained as yet, all the characteristics of an established

religion; but that it will gain them in time, there seems ample reason to believe.

The guiding spirit of the whole Ethical Movement in America has been its distinguished founder. Unlike ordinary religious organizations, The Ethical Culture Society has no creed which binds the various Societies and their members together. The common bond is not a set of ethical or religious dogmas, but a common aim, hope, aspiration. There is not even a common ethical philosophy. There is only a common ethical-mindedness.

This fact alone gives us a very clear indication as to the temper of Dr. Adler's mind, and the possible direction of his own ethical philosophy which is very influential in the Movement although it is not the official creed. The absence of a creed is not due to any hopeless scepticism, on the part of Dr. Adler, concerning the human mind and its ability to discover the truth. It is due, rather, to the deep conviction that all the truth we have is as nothing compared to the truth there is to know. Hence the utter desirability of having no fixed set of dogmas or a creed that would be bound to exert a petrifying power upon the minds of those accepting it: those who feel they have all essential truth, naturally do not feel they have to seek further.

This essential liberality of mind is truly remarkable in a religious leader, especially in a founder of a new religious movement. They who speak in the name of God almost invariably try to speak with His voice of thunder. Particularly so when the God is newly discovered, since in such cases His Voice has not yet become familiar to the people and has, therefore, no necessary power over them. But mere disciples and worshippers have never failed to cringe submissively before thunder. Thus it

was that Jehovah, for example, first gained power over the Jews.

But Dr. Adler, although he was trained for the Rabbinate, was also trained, when still a young man, in philosophy. And philosophers, as everyone knows, though they may rail, still they never thunder. They argue instead. Argument, it is true, never precludes special pleading; indeed it presupposes it; but it does nevertheless preclude special prerogatives or revelations. The very act of arguing necessitates mental liberty, equality—if not also fraternity—between the arguer and the person argued with. Because of his training, as well as because of his own nature, there is a wise temperateness and qualification about Dr. Adler's thought and expression which is marked at times to a singular degree. He has a definite philosophical system for which he argues with never-flagging constancy. But he only argues for it—as every philosopher does for his pet theory. Dr. Adler has thoroughly convinced himself that he has discovered at least some of the truth, but he is wise enough to recognize that it may possibly be false to others. Hence Dr. Adler states at the very outset of his most important book—*An Ethical Philosophy of Life*—"What I state as certain is certain to me. It has approved itself as such in my experience. Let others consult their experience and see how far it tallies with that which is here set forth." No philosophical mind could ask for anything fairer and intellectually more modest and unassuming than this. And no critic could possibly hope for a heartier invitation. Would that many other philosophers and especially religious and ethical teachers were of equal caliber in this respect!

The external facts of Dr. Adler's career are as instructive as they are interesting. To understand his ethical philosophy, Dr. Adler himself thinks it is necessary

to know something of his life. It is for this reason that he gives us the essential information in an autobiographical prelude to his *An Ethical Philosophy of Life.*

Dr. Adler has quite clearly revealed to us the influences that have moulded his thought, and the duties that have disciplined his life. A period of rabbinical training was followed by a period of training in modern idealistic philosophy and rationalistic ethics. And this again was followed by a period of teaching philosophy at Columbia University, which professorial duties Dr. Adler abandoned in order to devote all his energies to The Ethical Culture Society. There, apart from the functions of spiritual leader, he has had also the usual duties of a rabbi or priest: the duties, for instance of officiating at births, marriages and deaths. Dr. Adler is not, therefore, merely an ethical theorist, pure and simple; he is also a man of experience in those practical affairs which are most important in human life. Dr. Adler is the singular combination of a philosophical mind interested in practical ethical and religious matters.

While a young student in Germany, Dr. Adler set himself the arduous task of grappling in "grim earnest" with the philosophical system of Kant. He found in Kant's ethical doctrine a philosophical mainstay he had earnestly and painfully been searching for. Kant's ethics possessed a certain absolutistic austerity and sublimity which proved powerfully attractive. For by virtue of its absolutistic nature, Kant's ethics seemed capable of fulfilling the function of the Hebraic God whom the young Adler had, in the course of his rationalistic studies, definitely lost to such a degree that he could no longer think of entering the rabbinate for which he had been trained.

A mind that was strong and original enough to withstand the indoctrination of Jewish religious dogma and

tradition, was naturally strong enough to examine with careful discrimination Kant's ethical system and to reject those aspects of Kant's doctrine which proved repugnant to his ethical or religious consciousness. Kant, great though he may be, was not to be accepted as infallible. His doctrine, attractive though it was, was not avidly to be swallowed whole. A fine ethical taste could not help but find, for example, Kant's doctrine concerning marriage particularly offensive. The bachelor of Königsberg almost out-Pauled St. Paul by his statement that marriage consisted in a contract for mutual sexual gratification. This cynical, almost obtuse, characterization of the function and value of marriage necessarily was very repulsive to Dr. Adler who "had always felt an instinctive, idealizing reverence for women"[1] and who had throughout the young trials of early manhood rigorously lived up to the exacting correlative virtue of such reverence, namely, chastity.

The unrelieved individualism of Kant's ethics was also objectionable to Dr. Adler. He had from the start a deep-grained social sense which was significantly nourished by such books as *Die Arbeiterfrage* by Friederich Albert Lange.

However, the general scheme of Kant's ethics made an indelible impression upon Dr. Adler. And although later he criticized Kant's ethics on formal philosophical and ethical grounds—as well shall soon see—Dr. Adler's own system of ethics is quite significantly Kantian not only in general form but also, I think, in spirit. It is, like Kant's, transcendental and absolutistic. And it traffics in a type of categorical imperative.

1 *An Ethical Philosophy of Life*, p. 12.

II

Dr. Adler came to his study of Kant already firmly convinced that there is in man something which is holy and sacred; something which must be reverently approached and never despitefully used. This fundamental moral emotion or attitude, strengthened greatly by his study of the Hebrew Prophets, was, as Dr. Adler himself tells us, first forcibly brought to his consciousness when the imperious emotions of sex began to stir him. Then he saw clearly that at least part of the ethical life consists in so governing yourself that you never violate another personality, never sinfully transgress in the sanctuary of another soul. This first ethical attitude of non-violation or non-transgression was, however, too negative in character to be of ultimate ethical significance. But the possession of this ethical attitude or conviction was sufficient condition to make Kant a moral hero in Dr. Adler's eyes. For "Kant stands forth preeminent among all philosophers as the one who emphatically asserts that the attribute of inviolability attaches to every human being, in his formula that *every* man is to be treated as an end *per se*, and never to be used as a mere tool by others."[2] This doctrine of Kant's is, of course, in no way original. It is the common possession of all spiritual religions, for example, the Jewish and Christian religions (with some slight theoretical reservations as far as women are concerned). And the French Revolutionists—to mention no others—in somewhat different terminology, made the doctrine of the essential equality of all men—what Kant calls their *persceity*—their standard. Kant, in fact, who was greatly influenced by the libertarian movement in France, may not without justice be considered to have given formal philosophical expression to its ideas.

[2] *Ibid.*, p. 73.

However, it is this fundamental doctrine of Kant's that Dr. Adler has always greatly prized and has made fundamental in his own ethical system. His criticism of Kant is not, in this respect, of a matter of doctrine; but of the philosophical validity of Kant's method of establishing this doctrine. Stated very briefly, Dr. Adler's criticism of Kant is that Kant sought to establish his fundamental doctrine by principles that are valid only in the realms of logic and the physical sciences. But ethical doctrines can be validly established only by principles valid in the realm of ethics. Hence Kant's doctrine is invalidly established and Dr. Adler's primary and fundamental task is to establish the same doctrine validly; that is, to establish the doctrine of human worth on an ethical and not merely logical (which in ethics becomes a purely verbal) foundation.

III

To accomplish his end, Dr. Adler finds it necessary to postulate the transcendental existence of an infinite spiritual universe. This infinite spiritual universe or *corpus spirituale* is a manifold of unique ethical units or members absolutely flawlessly interrelated. The Jewish monotheistic ideal gives way to an absolute polytheism. Or, better perhaps, since the members are not considered to be Gods, God has disappeared from the celestial scene entirely in order to make complete room for the chorus of angels. For these transcendental spiritual beings are nothing if not angelic.

It was comparatively easy for Dr. Adler to conceive of — if not to create — this transcendental ethical realm because he is in epistemological-metaphysics, an idealist, not a realist. There are for Dr. Adler functions of the mind which are reality-producing, not merely, as the real-

ists maintain, reality-perceiving. The most distinctive operation of the reality-producing functions of the mind is to see things both *sub specie pluralitatis* and *sub specie unitatis*. Or, as Kant in his barbarous style would say, it is the function of the *a priori* synthetic unity of apperception to perceive the totality of the conditions which determine particular phenomena in their manifold connections with the whole of experience. As can easily be seen, the mind has, when contemplating (or creating) Dr. Adler's supernal ethical realm, a precisely full scope for its powers.

Although one may very seriously question the validity of Dr. Adler's Kantian theory of the nature of the human mind, it is of irrelevant importance so far as Dr. Adler's system of ethics is concerned. His ethical philosophy has only a nominal relationship to his general epistemologico-metaphysical theory. Dr. Adler could very easily have established his spiritual universe in some other way had he found it necessary to do so. It is hardly likely that anything—given his training—would have effectively hindered him from giving transcendental reality to his flawlessly interrelated ethical members. Had no other way presented itself to him, he could have used traditional theological conceptions and arguments.

Dr. Adler's conception of a spiritual universe, of a perfect ethical culture society on an infinitely grand scale, is only *logically* central in Dr. Adler's thought. *Ethically* central is the conception of the intrinsic worth, or the holiness even, of human personality, of the inner man. The origin of this conception in Dr. Adler's mind we have already noticed. Now the spiritual universe is postulated or created precisely in order to justify the ascription of intrinsic worth-whileness to ordinary empirical men. For, considered in their ordinary empirical character, men are

not intrinsically worth while, and they certainly are not holy. Not even some men are worth while; not even some women are holy, according to Dr. Adler. He definitely states that "certainly I do not discover the quality of worth in people as an empirical fact. In many I do not even discover value."[3]

What is this quality of "worth" then, which no one possesses but which yet makes every one a sacred, inviolable personality? It can not be an actuality, but must be a possibility of human nature. If not even possible empirically, then at least possible transcendentally. And such a quality it is indeed. The ordinary good qualities of human nature, the "plus-traits" are not, according to Dr. Adler, in themselves virtues, instances of spirituality, of worth-whileness. But they become such when they are raised to the "Nth degree" when they are "infinitized"—something which, of course, it is not possible to do completely in this life. So too, I suppose—for Dr. Adler is not specific on this point—correlatively, the bad qualities the "minus-traits" are not in in themselves vices, instances of spiritual depravity, of unworth-whileness. They, too, become such only when they are raised to the Nth degree, when they too are infinitized.

Worth and unworth are, quite plainly, theological rather than ethical conceptions. They involve the conception and existence of a quasi-theological, transcendental ethical realm. Although we may all be very thankful that we cannot be truly bad or vicious while on this earth—which is so full of temptation—we can hardly be as cheerfully disposed towards a theory which makes it impossible for us to be really good or virtuous as well. This latter ethical blow is hardly compensated for by the former ethical boon.

[3] *Ibid.*, p. 120.

IV

But what, anyway, is this "worth"? And how is it distinguished from "value"? Despite the fact that Dr. Adler lays great store by his ethical conception of "worth" it is, upon analysis, only a new term for something that is quite venerable in ethical theory. It stands for that which most ethicists call *end* or final value, what Professor Dewey in his *Experience and Nature* calls a "consummatory" good. And value stands for what is customarily called *means*, what Professor Dewey with greater explicitness calls an "instrumental" good. These are indisputably the meanings of Dr. Adler's two terms. For, avowedly, the attempt to establish the "worth" of the individual is identical with the attempt to establish him as an end *per se*, as being something that is not to be used as a mere tool, instrument or means, but something to be enjoyed and appreciated for its intrinsic nature, finally valuable as a consummatory good.

But why do we need the whole architecture of Dr. Adler's heaven in order to establish man as an end in himself? The logic of Dr. Adler's thought runs something like this: What is the peculiar characteristic of a tool, instrument or means? Dr. Adler asks. It is this: it is valuable only in so far as it performs a given function. Anything that can perform the same function is just as valuable, and can be substituted for the original tool or means. There is nothing, that is, distinctively unique or individual about a tool or means. Any given instrument is not indispensably necessary. It can easily be replaced by another that is applicable within the same field. It is not individualized or particular. It is general or universal by virtue of its function. Now according to Dr. Adler only the completely individualized act is an ethical act; only the unique personality, an ethical person-

ality. Hence, since in order to be an ethical personality, one must be *uniquely* necessary, a spiritual universe consisting of an infinite number of unique ethical members flawlessly interrelated, is necessary. For, considered empirically, men are mutually replaceable, especially in the common and industrial affairs of life. But in a spiritual universe of the characteristics Dr. Adler posits, each member will be indispensable and irreplaceable; each member being absolutely unique will therefore be irreplaceable; and being irreplaceable will therefore be indispensable for the existence of the ethical manifold or the spiritual universe. This latter consequence follows because of the added fact that all members of the spiritual universe are posited as being flawlessly interrelated, and therefore, the removal of one member would disrupt the unity of the whole society, making it incomplete and impossible for it to exist as a universe.

It has been pointed out time and again that the ethical systems of a period are intimately connected with the actual social facts of that period. Indeed, for the positivists, any ethical system is decidedly fantastic, of no ethical value whatsoever, if it presumes to do more than formulate in general terms the principles that are, as a matter of fact, actually guiding men in their conduct of life. Whether or not positivism is altogether correct, it certainly is true that Dr. Adler's conception of the *corpus spirituale,* of the infinite spiritual universe, is the formal ethical equivalent of social and political democracy. True to his own theory of transforming the empirical into the spiritual—perhaps true, even, to his theory of transforming the poisoned spears of misfortune into shafts of spiritual light—Dr. Adler has transformed the prosaic facts of social interdependence, and at least nominal (actually partial) individual autonomy, into the ideal of an absolute

social interrelatedness of absolutely unique and independent members. We may quite justly consider Dr. Adler to have given us the final as well as the finest formal expression of the democratic ideal.

V

Still, I do not think that Dr. Adler has succeeded wherein he maintains Kant failed. If anything, I think Dr. Adler fails more completely. Dr. Adler wishes to establish the intrinsic worth of man on an ethical foundation. An individual, he argues, merely has *value* when he is contingently instrumental to the attainment of some end. But when he is a necessary and indispensable member of an infinite spiritual universe, he has *worth*. But here, too, although Dr. Adler apparently does not recognize it, it is, I think quite plain, that the individual is *not* an *end* in himself, but only a necessary condition or *means* of another end—the total end of the spiritual universe. The difference Dr. Adler makes between value and worth is, demonstrably, the difference between being necessary in a system of changing relations—and hence being only relatively and partially necessary; and being necessary in a system of changeless relations—and hence being indispensably and absolutely necessary. But this difference is *not a difference in kind*—such as is the difference between that which is extrinsic and that which is intrinsic—but is only a difference in degree. And it is a difference in kind, and not merely in degree that Dr. Adler needs to establish and tries to. In Dr. Adler's theory intrinsic quality is obviously conceived of as being a function of extrinsic relations, whereas the very meaning and significance of the conception of intrinsic quality is that it is something which exists in its own right, something that is not dependent for its existence upon any relationship to other things, be

those other things of a finite or infinite number—of a nature contingent or necessary. Worth, for Dr. Adler, is simply magnified value.

Or, to put this criticism in spiritual terms: "worth" is not spiritually or ethically derived—as is the avowed intention of Dr. Adler—since it is dependent upon what is, philosophically, an accident of function in a manifold, which function of flawless interrelatedness is not itself in any respect intrinsically spiritual. The propositions in a perfect system of geometry or physics, for example, are also flawlessly interrelated. But they are not because of that spiritual or ethical.

It is not necessary, of course, to abandon the conception of the worth-whileness or *perscity* of man, simply because Dr. Adler's, no more than Kant's, transcendental justification of it is invalid. The only reason there is for asserting that man is intrinsically worth while is the naturalistic fact that he is so worth while. If men were not, as a matter of plain empirical fact, worth while, intrinsically valuable, there is no cogent reason for believing that if they only magnified their unworth-while qualities to an infinite degree, these qualities would somehow magically become, *ipsofacto,* worth while.

Dr. Adler, in his doctrine that a virtue is a good human quality, a plus-trait, infinitized or raised to the Nth degree, is simply, I believe, re-phrasing Kant's universal ethical rule-of-thumb. Kant said: universalize your act. If it can be universalized, it is ethical. Dr. Adler says: infinitize your act, or raise it to the Nth degree. When it (that is, the possible ethical quality) is so infinitized or exalted, it is an ethical or virtuous act. Instead of going with Kant (ethically of course) to the right and the left, you go with Dr. Adler up and down. The difference is hardly of fundamental ethical significance—especially in

a universe which is a boundless volume in which all directions are relative and in which, moreover, all qualities are of such a sort that any finite instance of any quality expresses its infinite essence. For red to be really and truly red, it is quite unnecessary to first paint the whole town red. The town, to be sure, may be a more beautiful object when thus painted. But the red of one brick is nevertheless as essentially and infinitely red as the whole town. If we intensify the redness of any one brick even to an infinite or Nth degree, it does not become, fundamentally, any more *red* than a brick not so intensely colored. For if the basal metaphysical quality of the color, the redness, were changed by intensifying it—as Dr. Adler seeks to change plus-traits into virtues—we would obviously not have the same color but a different one. Such a transformation intensification can never legitimately produce.

It is just possible that had Dr. Adler paid more attention to this simple metaphysical fact, he would have abandoned his doctrine as ethically unnecessary as well as for its being metaphysically untrue and ethically undesirable. For Dr. Adler's doctrine is undesirable from a practical ethical point of view—even if we do grant that the doctrine may have some salutary ethical value in that it may tend to diminish obnoxious moral self-righteousness in the individual. But, strictly speaking, the doctrine does not *necessarily* have even this salutary effect. For although according to Dr. Adler's doctrine none of us could claim he was absolutely ethical or virtuous, he could still easily claim that he was *closer* to that enviable state than any one else. And as human beings are at least at present constituted, this sort of superiority is a quite sufficient condition for putting on moral airs. However, even granting that Dr. Adler's doctrine may incidentally inculcate ethical humility (which, of course, could be inculcated more directly

and perhaps more effectively in other ways) it would still be true, that Dr. Adler's doctrine is ethically undesirable. A *necessarily* unattainable ideal, no matter how glamorous it is, is bound to become an *ignis fatuus,* not a valuable goal of effort, which even the best of men will soon forsake in favor of more positive goods which are attainable on earth. And it has always proved to be the case—as the history of mankind amply shows—that whenever an ideal has been abandoned as chimerical, men have become cynical and hard-minded: they refuse to believe that any ideals of earthly human value are possible at all. It is the disillusioned idealistic romanticist, who becomes the most cynical tough-hearted materialist. It is they who first vainly pursue the ideal Kingdom in Heaven who turn to entrench themselves, at whatever cost to themselves or others, most firmly in the real kingdom on earth.

But even furthermore! Dr. Adler, by his doctrine of "worth" solves none of the problems we are actually faced with in life nor does he even provide any help for their solution. As he himself says, "Because all have worth, it does not follow that all are worth while. To be worth while, the inner quality, the spiritual possibility, must be made manifest in some talent, some gift, some distinctive value contributed, and the ethical purpose of life is to make worth while those who have worth."[4] If the ethical tables are not by this pronouncement turned, they are at least seriously upset. For it seemed pretty clear that Dr. Adler's main position is that the essential ethical quality—worth—is the possession of all men, potentially. As Dr. Adler very strikingly says in another place, "Ethics is a system of thought which stands or falls with the contention that while the better may be within the reach only of the exceptional

[4] *The Vision of New York as the Democratic Metropolis of the Future,* p. 10. Many of Dr. Adler's ethical pamphlets are, unfortunately, not dated.

few, the best is within reach of all."[5] Now since worthwhileness is (in the first quotation) within the reach of only the exceptional few and is still the best—being better than worth—Dr. Adler would seem to be harboring a very dangerous contradiction. But the difficulty may be merely a temporary linguistic mistake. It is clear, however, that on broad, general grounds the conception of worth does not help us at all when we are concerned with the concrete ethical problems of life, nor does it help us at all in the theoretical ethical problem of discovering what are the *things* "worth" while. We are still faced with precisely the same primary honest-to-goodness task of determining and discovering what talents or gifts are distinctively valuable for human life, for which task we receive absolutely no aid from Dr. Adler's doctrine. We are left with the same old problem in the same old way.

VI

Dr. Adler's central ethical imperative, his supreme ethical rule of life, follows in the order of logic, from his conception of the *corpus spirituale*, although in the actual psychological order in which Dr. Adler's ethical philosophy was developed, the conception of the *corpus spirituale* was posited in order to establish the central ethical imperative and the "worth"-whileness of man upon which it depends.

In the *corpus spirituale* each member is independent and yet also indispensable for the other members because flawlessly interrelated with them, in their infinite number constituting the *corpus*. Since each member or ethical unit is, because of its thoroughgoing interrelatedness, infinitely precious or worth while, it must be preserved in its integrity, and fostered in its uniqueness. Worth is, of course, as we have seen, a quality of members of the ethical mani-

[5] *An Ethical Philosophy of Life*, p. 102.

fold, of the spiritual universe; but since human beings are potential members at least of this supernal realm, future loci of spirituality, what is true with regard to the members of the spiritual universe is both directly and indirectly true with regard to men in the empirical world. Because the spiritual universe is made up of an infinite number of infinitely diversified spiritual members, it follows that in order that empirical men may partake of that extreme spirituality, become members in that universe, it is necessary that we so act towards them so as to fit them for that supreme membership. Hence the ethical imperative, "the supreme ethical rule of life," variously phrased by Dr. Adler according as he wishes to stress now the agent, now the patient in human inter-relations—in so far as such a distinction can be made—is substantially expressed in his formula: "Act so as to elicit in another the distinctive, unique quality characteristic of him as a fellow-member of the infinite whole."[6] And it follows as a matter of inevitability, according to Dr. Adler, that you will thereby elicit in yourself the unique quality characteristic of you.

Dr. Adler's ethical rule or formula can hardly fail to appeal to any one living in our essentially diversified civilization. Especially when one takes into consideration that it has become a fairly oppressive dogma that to be the same is to be good. It is a welcome relief to have recognised that differences are not necessarily pernicious and immoral—as classical Victorians are inclined to believe. But it would be extremely desirable to have recognised that to be different is also not necessarily to be good—which is the curious

[6] *Ibid.*, p. 117. Another less exact expression of the same rule is the following: "act so as to elicit the best in others and *thereby* in thyself." *Ibid.*, p. 208. This formulation exhibits clearly the ethical platitudinousness of the "rule" if care is not always taken to insert the all-saving doctrine of "uniqueness." For this reason the formulation: "so act as to elicit the unique personality in others and thereby in thyself" (*ibid.*, p. 220) is practically equivalent and as good as the one quoted in the text; it emphasizes what is fundamental with Dr. Adler, namely, the uniqueness of the individual as a condition of being ethical.

dogma of some of the élite. Dr. Adler's philosophy, although gathered together and put in book form only quite recently (1918) had its inception at a time when individualism almost in its early pioneer American sense, was still strongly prevalent. And although in Dr. Adler's system there is a formal equalization of the individual and society —the controlling concept being ostensibly that of a superorganism[7]—Dr. Adler nonetheless throws a disproportionate emphasis upon the individual, as is evidenced in his supreme rule of life.

But the fundamental objection to Dr. Adler's ethical rule is that there is no reason for believing that two or more acts that differ from one another are for that reason *better* than two or more other acts (equal in all other ethical respects) which are similar to each other. There is, I believe, no *ethical* reason for maintaining this. Sameness and difference are not at all intrinsically ethical qualities. They are non-ethical extrinsic characteristics determined by the relations things bear to one another. Once again we have Dr. Adler, intent upon discovering and establishing the intrinsic ethical quality, giving greatest determining importance to extrinsic relations .

To put this in somewhat different form. Dr. Adler, in his ethical imperative has formulated not an ethical, but if anything an esthetic principle. In art, if anywhere, the particularity of mode of expression is a predominant consideration. Even in art, it could hardly be denied that it is basically the general or universal esthetic quality of beauty which determines the esthetic value of any mode or form of expression used. Still it is also true, I think, that in the realm of art, the manner in which beauty is exhibited, the particular method employed in the use of artistic ma-

[7] *Cf. The Reconstruction of the Spiritual Ideal.*

terials, is a rather important esthetic consideration. Two artistic objects which differ from one another are, all other things being equal, artistically more valuable than two such objects which are similar to one another. But the same is *not* true, I think, of two moral acts. This difference may be one of the defining differences between the ethical and the esthetic.

The popular objection to the conventional heaven that it is too monotonously the same, is quite clearly not an ethical but an esthetic objection. Naturally, no sensible person would protest against combining beauty with goodness. There is no intelligent reason why heaven should not be an agreeable as well as a morally correct place to live in. In view of the fact that we (that is some of us) shall live there eternally, it would—if I may say so without introducing confusion—be a better place to live in, if it were variously beautiful as well as unremittingly good. But it would, I believe, be better in a non-ethical sense of good. It would be better in the sense that a beautiful thing and a good thing and a true thing are better than either a beautiful thing or a good thing or a true thing alone. It would be better, that is, by virtue of the principle that things having two or three qualities which are humanly valuable are better or more valuable than things having only one. But this in no way alters the fact that the quality of a thing which we call ethically good is *not* made better, with respect to that quality, by the addition of another quality which we call beauty or another which we call truth. Still less is it true that a thing is *ethically* better because it has in addition the "relational property" of being different from another thing which is ethically good.

Practically considered, it is true that we suffer from serious stultifications when sameness, agreement, or con-

formity, is made the criterion of goodness—the vice of democracy. But it is also true that we suffer no less acutely from the vagaries that are inevitable when difference is asserted to be intrinsically and comprehensively good—the vice of ultra-modernism. The task of the practical ethicist —and Dr. Adler sets himself up as such—is to steer between Charybdis and Scylla, not to choose to founder either on the one or the other or to oscillate for ever in between. Dr. Adler, I believe, has not succeeded very signally in this difficult task of ethical piloting.

Finally, there is an actual empirical objection against Dr. Adler's whole ethical philosophy and his supreme ethical rule, which destroys them entirely. It is all very fine to say that the ethical rule is to "act so as to elicit in another the distinctive, unique quality characteristic of him as a fellow-member of the infinite whole" and that you will thereby elicit in yourself the unique quality characteristic of you; but what reason on earth, or in heaven, is there for believing that there are no vital incompatibilities, the cultivation of which leads to greater antagonism, not more flawless interrelatedness? For, after all, even God had to expel Lucifer from Heaven no matter what the cost. . .

Dr. Adler himself, at least once recognised the existence of such vital incompatibilities, although even then he did not realize with what destructive force it operated against the essentials of his own ethical philosophy. The recognition is embodied in a discussion of Zionism. Against the possibilities of a Jewish State in Palestine, Dr. Adler presents the following argument:

> "Is it likely that these people, if you should bring them to Palestine—the Henri Bergson type, the Disraeli type, the Brandes type, the Russian types—I will not mention names of American types—will possess the homogeneity that seems essential to a nation? There are certain traits, of course, in which the Jews resemble

> each other the world over. But beside these resemblances, there is also such diversity that it is safe to say that the repugnance of the different types of the Jew toward one another—the repugnance of the German Jew toward the Polish Jew for instance—is more marked, or certainly as marked, as that of the German in general toward the Pole in general. If you were to assemble these types in one restricted area, you would have, not the basis for a homogeneous nation, but manifestly a heterogeneity of elements, a clashing of uncongenialities that would prophesy disaster rather than prosperity to the enterprise of constructng a new state—a miniature Tower of Babel rather than a New Jerusalem." (*Nationalism and Zionism*, pp. 9-10).

With the politics of this paragraph we are not concerned. But consider its ethics! No hostile critic of Dr. Adler's philosophy could wish for a more beautifully conclusive refutation of Dr. Adler's ethical philosophy than the one Dr. Adler furnishes in the above quotation. It bares to the bone the fallacious, almost Pollyanna optimism which the supreme rule embodies. And it should be observed carefully that the uncongenial types mentioned and named —the Henri Bergson type, the Disraeli type, the Brandes type—are certainly types which the infinite spiritual universe *must* contain, if it is going to be really infinitely diversified as Dr. Adler's ethical system requires. If such types are uncongenial on earth why should we believe that they will become absolutely congenial—become flawlessly interrelated—when their differences are infinitized and they are in Heaven?

Dr. Adler's ethical rule—which sums up his whole philosophy—sounds very good at first; it is exceedingly attractive. It expresses so neatly the consciousness that is common to all enlightened people: the consciousness that our task in life is to help develop each other, not help to crush each other. But *what* shall we help develop in each

other? Upon this we need thorough enlightenment from the ethicist; and Dr. Adler gives us none at all. Shall we develop that which is uniquely distinctive, no matter what that unique distinction consists in? Hardly! Our distinctive characteristic may be a perversity, an abomination in the eyes of man and God. Not *all* uniqueness, then. Only *good* uniqueness. But does the supreme ethical rule though, or the general religious-metaphysics of the spiritual universe, help us in the least to determine what *is a good* uniqueness, a *desirable* uniqueness? It does not. For it is no help whatsoever to us to be told—and this is the nearest Dr. Adler ever comes to helping us as ethicists!—that "difference in the ethical meaning . . . is the kind of difference which elicits correlated difference in all spiritual associates."[8] Posit as does Dr. Adler that the associates are flawlessly related, and *any* difference, good, bad or indifferent, would elicit correlated differences in all other associates.

The essential ethical problem of determining what is good and what bad is not in any way solved or even approached by Dr. Adler's ethical rule or his philosophy of the spiritual universe—the foundation principles of his whole ethical system. Dr. Adler's ethical system is so purely formal—and not unimpeachable in that regard either—so absolutely general, that it is of no positive ethical help practical or theoretical, and therefore, I believe, of no positive ethical significance. At most Dr. Adler has succeeded in defining an *attitude* of mind—today a fairly prevalent attitude of mind—but he has done nothing more. His ethical system is very decidedly and fundamentally defective.

However, it is only just and fitting to say in closing, that there is pervading Dr. Adler's chief volume, no matter how much one may dislike and disagree with it on philo-

[8] *An Ethical Philosophy of Life*, p. 142, footnote.

sophical and ethical grounds, a sweet spirituality that cannot but capture the hearts of its readers. The strength and vitality of Dr. Adler's spirituality can, I think, be easily gauged from the fact that it was able to weather unspoiled the disastrous storms of public life, and the even deadlier calms of Kantian philosophy.

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DEWEY'S THEORY OF THE MORAL GOOD

"GOOD is the meaning that is experienced to belong to an activity when conflict and entanglement of various incompatible impulses and habits terminate in an orderly release of action."[1] Goods, too, in the discussions of Dewey, sometimes denote those objects which, when discovered or created, resolve or unify these conflicts by becoming *adequate* stimuli for their release in action. Thus, the term suggests a dual reference: (a) adjectival, or adverbial, and (b) substantive—quality, or thing. Lest this distinction imply a fixed disjunction in the denotation of the 'moral good,' recourse must be had at this point to psychological analysis, in which 'means' and 'ends,' 'instrumental' and 'consummatory,' and 'extrinsic' and 'intrinsic' are sharply delimited and supplied with empirically verifiable content. We begin with an analysis of means and ends.

Generally speaking, 'ends,' 'aims,' 'aims-in-view,' or 'ideals'[2] are said by Dewey to arise in the following manner. They begin with a wish, an emotional reaction against the present state of things, and a hope for something different. Action fails to connect satisfactorily with surrounding conditions. Thrown back upon itself, it projects itself in an imaginative rehearsal of a scene which, *if it were present,* would afford satisfaction, or release of action. In

[1] *Human Nature and Conduct,* p. 210.

[2] These four terms are synonyms.

itself, however, it is but a fancy, a dream, a castle in the air; in itself it is but a romantic embellishment of the present. A fancy becomes a *genuine* aim or end *only* when some consequence of cause-and-effect is projected into the future, and when by assembling its causal conditions we strive to generate a like result.[3] Thus, "ends are foreseen consequences that arise *in* the course of activity, and which are employed to give activity added meaning and to direct its further course. They are in no sense ends *of* action. In being ends of *deliberation* they are redirecting pivots *in* action."[4] Put otherwise, "—ends, objectives, of conduct are those foreseen consequences which influence present deliberation and which finally bring it to rest by furnishing an adequate stimulus to overt action."[5] "Ends are devices of intelligence in guiding action, instrumental to freeing and harmonizing troubled and divided tendencies."[6]

Hence, it becomes apparent that what commonly pass for moral 'ends,' 'ideals,' or 'goods' frequently possess no specific content except that of vague emotional reaction, protest, felt-lack, strain, discomfort, etc., which but indicate the *necessity for* thought. In such cases real ends arise only when there supervenes a search for objects or acts, specifically conceived, for whose actual realization additional specific 'means' or causal agencies, present and known, are set in motion. Thus, these, in themselves, in no way constitute ends or goods; they but supply impulsions or stimuli to deliberation from which alone genuine ends emerge.

Nor is this reflective rehearsal of means and ends without affective quality. Ends possess certain qualities as they

[3] *Cf. ibid.*, p. 235. Here emerges the meaning of purpose: "Knowledge joined to wish creates a purpose." *Ibid.*

[4] *Ibid.*, p. 225.

[5] *Ibid.*, p. 223.

[6] *Ibid.*, p. 231.

arise in this imaginative situation; they are liked or disliked, desirable or undesirable, pleasurable or painful, etc. Herein lies the chief impulsion toward setting up fixed and detached ends, plus the correlative tendency to neglect those concrete causal agencies without which their actual realization is impossible. Furthermore, the most prolific source of all pathological tendencies lies in just this fact: if carried too far, it breeds habits of withdrawal from the knotty tasks that confront actual moral progress and betterment.

This conception of ends divulges the fallacy of fixed and simple goods or ends. Ends are literally endless, are endless ends, which is equivalent to saying that there are no fixed ends. Ends become active means or tools, moving, local, a function of point of view. In fact, 'means' and 'ends' are but two ways of viewing the same act. "Means are means, they are intermediates, middle terms. To grasp this fact is to have done with the ordinary dualism of means and ends. The "end" is merely a series of acts viewed at a remote stage; and a means is merely the series viewed at an earlier one. The distinction of means and ends arises in surveying the *course* of a proposed *line* of action, a connected series in time. The "end" is the last act thought of; the means are the acts to be performed prior to it in time."[7] "Means and ends are two names for the same reality. The terms denote not a division in reality but a distinction in judgment.—"Ends" is a name for a series of acts taken collectively—like the term army. "Means" is a name for the same series taken distributively —like this soldier, that officer."[8] Furthermore, to reach an end, attention must shift from the end to intervening acts requisite for its realization; hence, these intermediary

[7] *Ibid.*, p. 34.
[8] *Ibid.*

acts in turn become ends. But these intermediary acts to be performed are also selections of choice or reflection based upon the effective reach of causal means within the scope of the knowledge of the individual. Thus, both means and ends are distinctions instituted by critical judgment; they are termini for specific acts of thought, *not* of action. They are definite steps into life ahead, not stopping-places; when reached they become in turn the only accessible means for further action and growth.

The above analysis of means and ends discloses the clue for resolving the current dualism between 'intrinsic' and 'extrinsic,' or 'consummatory' and 'instrumental' goods or ends. As immediate objects of appreciative realization all goods are ends, intrinsic or consummatory. In its own place no good or end is a means beyond itself. But a situation may arise—and this continually in some way or other for all ends—when they compete or conflict, are absent or denied; then they all require estimate in terms of ends other than themselves. But, in so doing, they become instrumental or extrinsic to some further end to which they may conduce.[9] Hence, 'intrinsic' and 'consummatory' are but other terms for ends; 'extrinsic' and 'instrumental' are equivalent to means. Further, no good possesses a *fixed* status as the one *or* the other of these classes; at best it is but temporarily and predominantly to be thus considered.

The import of this discussion of means and ends for morals is apparent. Moral goods may be had, enjoyed, or they may be absent and desired. As 'desired' they are already present in thought; their absence in action is converted into presence for deliberation. That is, the end of thought resides not in the future, but consists in the transformation of the absent and desired to the status of pres-

[9] *Cf. Democracy and Education,* p. 279.

ent and enjoyed, in converting foreseen consequences into present and enjoyed goods by making them *present* stimuli toward expansive action and growth. Yet, expansion and growth are present; their directive phase is just this mediary process called thought. Hence, "—the good is now or never," i. e., the only controllable means—neglecting pure chance—for the consummation of the desired action consists in the 'absent' becoming 'present.' The object or action as future becomes present and operative as stimulus to its eventual consummation for action; the desired is already present *in* thought, it is in-process-of-becoming present or realized in action. "Growth itself is the only moral end."[10] Hence, the moral good coincides with the satisfaction of the forces of human nature naturally conceived; it *is* their liberation and integration.

We return, thus, to the suggestion made at the outset. The moral good may own a dual connotation, that of adjective and of noun. Assessed in the light of the above analysis, the ultimate significance of the moral good is adjectival or adverbial. "To say that a man seeks health or justice is only to say that he seeks to live healthily or justly. These things, like truth, are abverbial."[11] The good is but the quality of release and integration among impulses and habits, directed by desire and intelligence.

A more detailed analysis of Professor Dewey's conception of the moral good may profitably be organized under the following heads.

1. *The scope or denotation of the good.* One prevalent but narrow view of morals results from the sundering of means from ends, i. e., the detachment of ends from the empirical context in which alone their specific determination lies. A few important aspects of conduct become focal in attention, and, through abstraction from their

[10] *Reconstruction in Philosophy*, p. 177.
[11] *Ibid.*, p. 167.

individual contexts, become *the* subject-matter of morals; the others assume a fixed instrumental status. In contrast, the foregoing account lays violent hands upon the sacred ark of these traditional goods, which include such well-known "ultimate goods" as pleasure, self-control, self-realization,[12] purification of inner motives, hearkening to the Will of Deity, good will, etc. These "—classical theories all agree in one regard. They all alike assume the existence of *the* end, the *summum bonum,* the final good, and the separate moral force that moves to that good."[13] Yet the moment these goods are evaluated in the light of an adequate genetic social psychology, their alleged rigidity and exclusiveness evaporates. Analysis of any concrete act of moral deliberation divulges no content other than specific objects or acts; these alone supply its definitive structure. To the degree that these alleged goods possess meaning, this meaning funds alone in terms of specific objects specifically conceived. Then, and then only, can these be efficacious means or stimuli to conduct and directive of action. Herein lies the critical point of all theories which identify the good with any of the so-called ends noted above.

The net worth of these historic goods reduces to the following. They retain only what actual value they possess as directive means for those specific situations in which they figure. They shed all fixity and finality, and become but one each among other *equally* moral goods. They descend from their grandeur and isolation to take their responsible place among the moving affairs of men. They get loosened, stirred-up, moved about; become fluid and adaptible, means, tools or instruments. 'By their consequences ye shall know them.' In fact, complete *expla-*

12 That is, in the sense of eliciting from a ready-made 'self' capacities or traits attributed to it *a priori.*

13 *Influence of Darwin on Philosophy,* etc., p. 67.

nation of any moral good consists alone in the determination of those constitutive factors, or causal agencies, that condition both its emergence and its subsequent determination.

In contrast with their status in most historic theories, moral goods become co-extensive with *all* of life's significant concerns. "The love of knowledge for its own sake is an ideal of morals."[14] The great philosophical fallacy consists just in this conversion of unavowed morals, or wisdom, into cosmology. This obscuration occurs "—when philosophers have hit in reflection upon a thing which is stably good in quality and hence worthy of continued and persistent choice, they hesitate, and withdraw from the effort and struggle choice demands:—namely, from the effort to give it some such stability in observed existence as it possesses in quality when thought of. Thus, it becomes a refuge, an asylum for contemplation, or a theme for dialectical elaboration, instead of an ideal to guide conduct."[15] Furthermore, beliefs and disbeliefs are moral goods; they represent discrimination, choice, acceptance or rejection; they function as objects of evaluative judgments; they are liked or disliked; they come fraught with the same type of affective qualities as other objects of experience. Turning to the goods of art, these, too, are moral, "They are not less good than the goods of nature, while in addition they are such as to bring with themselves open-eyed confidence. They are fruits of means consciously employed; fulfillments whose further consequences are secured by conscious control of the causal conditions which enter into them."[16] Or, to select another realm of goods, the esthetic—these, likewise, are inescapably moral in their ultimate import. In short, all signifi-

[14] *Experience and Nature*, p. 52.
[15] *Ibid.*, pp. 53.
[16] *Ibid.*, p. 272.

cant concerns, whether called 'business,' 'politics,' 'recreation,' 'religion,' etc., are, in their final meaning, moral. In all cases the *illusion* of detachment and autonomy results from a narrowing of attention to, and a preoccupation with, some admitted good, plus its subsequent deployment and elevation to the status of 'higher,' 'ideal,' 'supreme,' etc.

Nor does limitation of the moral good to just those situations in which choice and thought are involved negate this generality of denotation. There is no sharp line demarcating action involving merely impulse and habit from reflective acts, since one of the consequences of all acts, *at some time or another,* consists in involving us in predicaments where we are forced to reflect upon things done as a matter of course. Put psychologically, every act is potentially an agency for effecting changes in impulse, desire, and habit, i. e., for character and disposition, and, hence, for eventual weal or woe. Every act is potentially within the scope of morals, being a candidate for a possible judgment with respect to its better or worse quality. In sum, then, moral goods can be no separate department of life. "Potentially, conduct is one hundred percent of our acts."[17]

2. *The good as happiness.* At this point Dewey's theory makes closest contact with historic definitions—in particular, that of utilitarianism. To them he acknowledges the merit of having enforced the thesis that ultimate moral concerns focus in the satisfaction of the forces of human nature. But here a *caveat* needs to be entered. It is only after careful delimitation that the term 'happiness' becomes acceptable to Mr. Dewey; happiness must be carefully discriminated from 'pleasure' as this latter term has usually been employed.

[17] *Human Nature and Conduct,* p. 279.

Pleasure cannot qualify as *the* moral good for the following reasons. (1) "Pleasure has often been identified with special thrills, excitations, ticklings of sense, stirrings of appetite for the express purpose of enjoying immediate stimulation irrespective of results."[18] Mere statement here suffices for refutation. (2) Pleasure cannot function as a *future* end for two reasons: (a) we are unable to gauge future pleasures or pains because of changes both within ourselves and in the objective conditions which enter into experience, and (b) more pertinently, we can react to nothing but present stimuli. That is, pleasure as a future object of desire obscures the true character of desire and effort. Our previous analysis of means and ends has divulged the fact that only specific acts or objects, immediately present and specifically conceived, can function as objects of desire, or stimuli to action. In fact, "—a man's judgment of future joys and sorrows is but a projection of what now satisfies or annoys him."[19] "His estimate of the future consequences of the agreeable and annoying is consequently of much greater value as an index of what he now is than as a prediction of future results."[20] Hence, "joys and suffering, pain and pleasure, the agreeable and disagreeable, play their considerable rôle in deliberation. Not, however, by way of a calculated estimate of future delights and miseries, but by way of experiencing present ones."[21] Moreover, "if pleasure or perfection were the true end of desire, it would still be true that the way of attainment is not to think of them."[22] (3) Pleasure cannot function as a *present* object of desire since the alleged 'pleasure-quality' of experiences is unique, and varies commensurately with changes in the content of

[18] *Ibid.*, p. 158.
[19] *Ibid.*, p. 204.
[20] *Ibid.*, p. 205.
[21] *Ibid.*, p. 200.
[22] *Ibid.*, p. 251.

the experiences. But, pleasure as the end implies reducibility to a common denominator in terms of which all these unique affective qualities may be funded. Thus, the single standard conception of pleasure as the end becomes hopelessly inadequate; each pleasure remains itself, and, in comparison with others, is incommensurable.[23] (4) Both hedonic and utilitarian formulations of pleasure or happiness as the good lean on a false notion of the true character and office of deliberation. According to the latter deliberation reduces to an 'hedonic-calculus,' or a process of 'quantity-measurement' in which the assumed 'duration-intensity' property of conflicting alternatives eventuates in the decision of that as good which promises the greater quantity of pleasure. More empirically correct, on the other hand, is that definition of deliberation in which habits supply its sole content.[24] Empirical inspection of deliberation exhibits but specific objects or actions, of which 'pleasure' is the by-product, their affective quality. In short, the moment a sounder psychology relocates the structure of thought in habits, definitions of thought as an affair of the counting-house collapse. It should be noted, however, that certain cases of deliberation do exhibit this quantitative feature. When, for example, the decision lies between investing a given sum of money in this or that bond, both of which are judged of equal merit otherwise, the choice will usually fall to that one which yields quantitatively the greater net income. But this type of case is scarcely significant for morals; at

[23] Not that the divergent qualities of pleasure for specifically different acts has not been recognized by J. S. Mill and others; yet, in so far forth, this distinction introduces an irreducible surd which negates the validity of pleasure as the end or final good.

[24] "Concrete habits do all the perceiving, recognizing, imagining, recalling, judging, conceiving, and reasoning that is done." *Ibid.*, p. 177.

best, it typifies but a narrow and relatively unimportant region of moral judgments.[25]

Per contra, Mr. Dewey maintains that the real office of 'objects of desire' consists in being means or stimuli for the removal of obstructions to an ongoing and unified system of activities. As was above indicated, action or growth is the final end of moral endeavor. If a categorical imperative be required, the following may be proferred: "So act as to increase the meaning of present experience."[26] Yet, imperatives, like all absolutes, are sterile: "Till men give up the search for a general formula of progress, they will not know where to look for it."[27]

Obviously, happiness in its current connotation is unacceptable. Redefined in the light of a behavioristic-genetic-functional social-psychology, "Happiness consists in the agreement, whether anticipated or realized, of the objective conditions brought about by our endeavors with our desires and purposes. This conception of happiness is contrasted with the notion that it is a sum or collection of separate states of sensation or feeling."[28] Or, "—happiness consists in the fulfillment in their appropriate objects (or the anticipation of such fulfillment) of the powers of the self manifested in desires, purposes, efforts."[29] Nor is happiness a bare possession, a fixed attainment, but it "—is found only in success, but success means succeeding, getting forward, moving in advance. It is an active process, not a passive outcome."[30] Finally, "Happiness is no less unique than the individuals who experience it; no less complex than the constitution of their

[25] The root of the tendency so to interpret deliberation, Mr. Dewey traces to pervasive habits derivable from modern industry and business; intelligence, *sui generis,* has been converted into an affair of the counting-house.

[26] *Human Nature and Conduct,* p. 283.

[27] *Ibid.*

[28] Dewey and Tufts, *Ethics,* p. 281.

[29] *Ibid.,* p. 280.

[30] *Reconstruction in Philosophy,* pp. 179-180.

capacities; no less variable than the objects upon which their capacities are directed."[31]

However, not just any indiscriminate act conduces toward genuine moral happiness. "The identity of the individual and general happiness is a moral matter, it depends, that is, upon the reflective and intentional development of that type of character which identifies itself with common ends, and which is happy in those ends just because it has made them its own."[32] In fine, "The final question of happiness, the question that marks off true and right happiness from false and wrong gratification, comes to this: Can there be found ends of action, desirable in themselves, which reinforce and expand not only the motives from which they spring, but also the other tendencies and attitudes which are sources of happiness?—What is the good which while good in direct enjoyment also brings with it fuller and more continuous life?"[33] Only in this latter sense, then, may happiness be identified with the good.

3. *The good as precarious and shifting; as unique and endless.* Our previous analysis of means and ends, or thought, exposes the errors involved in doctrines of fixed and simple goods. All goods, all ends, are but guide-posts for individual experience taken prospectively; they are not closures. When reached, they become but present means for further growth. A genetic psychology of the self attests the impossibiliity of anything 'fixed' in either the content of character or those objective factors which define its specific modes. Only a self of complete rigidity in routine, plus a purely stable world, could possibly yield

[31] *Influence of Darwin on Philosophy*, etc., pp. 69-70.

[32] Dewey and Tufts, *Ethics*, p. 302.

[33] *Ibid.*, p. 284. A passage in *Interest and Effort in Education*, p. 35, contains the suggestion that happiness is an 'emotional' accompaniment of action. On the whole, though, Mr. Dewey seeks to avoid the current connotations of happiness as too subjectivistic and static; his more recent pronouncements attempt to fund its meaning in terms of a behavioristic psychology.

ready-made and unalterable goods. As an empirical fact, the world is both hazardous and stable, exhibiting neither sheer flux nor absolute permanence. "The union of the hazardous and stable, of the incomplete and the recurrent, is the condition of all experienced satisfaction as truly as of our predicaments and problems. While it is the source of ignorance, error, and failure of expectation, it is the source of delight which fulfillment brings. For if there were nothing in the way, if there were no deviations and resistances, fulfillment would be at once, and in so being would fulfil nothing."[34] Hence, "Moral goods and ends exist only where there is something to be done."[35] Furthermore, it follows that desire, hope, ideals and realizations, as well as illusion, error, frustration and tragedy, are all alike signs and functions of uncertainty, deprivation and discord; without these latter the former could never exist. In truth, all these, including good and evil, are functions and distinctions within a growing self in a changing world. Thus, there are problems and a 'pathology' of goodness as well as of evil.

Translated into psychological terms these remarks illustrate even more clearly the precarious and shifting nature of moral goods. The moment deliberation ceases to be something merely in general and denotes but specific acts on the part of equally specific individuals, the particular status of the good existent therein becomes likewise a local and relative matter. That is, every specific object of desire is a function of the particular context in which it appears; its significance and directive efficacy are germane to this context alone. Then, too, as experiences become more numerous and diversified, that which is judged *the* good of one situation becomes relatively trivial in another. For example, to a business man facing bankruptcy, re-

[34] *Experience and Nature*, p. 62.
[35] *Reconstruction in Philosophy*, p. 169.

storation of credit and confidence is *the* one concern; while to the same man at another time, it is of little or no worth. All goods, *qua* immediate, are on the same level: "Anything that in a given situation is an end or good at all is of equal worth, rank and dignity with every other good of any other situation, and deserves the same intelligent attention."[36]

The analysis of means and ends also brings to light the unique and multiple character of the moral good. As experiences in the concrete are divergent, those particular factors which constitute their content are commensurately varied; hence, the qualitative aspect, or the goodness of those situations, is also multiple and unique. Moral goods are innumerable, and the "quality of the good that inheres in each specific moral situation is unique in itself. The good is never twice alike."[37] "Every moral situation is a unique situation having its own irreplaceable good."[38]

4. *'Good' and 'evil'; 'genuine' and 'false' goods; the good as 'ideal' and 'real.'* Good and evil have been assigned varying and diverse sources; God and the world, Reason and the irrational, Being and becoming, Conscience and impulse, the Infinite and the finite, Divine versus mortal mind, etc., illustrate the more common types of rational grounding. While perhaps the most significant bifurcation for conduct comes *prospectively,* these distinctions possess neither meaning nor existence *prior* to choice or reflection. "The difference in adjectives designates a difference instituted in critical judgment, the validity of the difference between good which is approved and that which is good but is *judged bad* depends therefore upon the value of reflection in general, and of that particular operation in

[36] *Reconstruction in Philosophy,* p. 176.
[37] *Human Nature and Conduct,* p. 211.
[38] *Reconstruction in Philosophy,* p. 163.

particular."[39] Hence, whenever choice enters, "a difference between better and worse arises."[40] All conflicting allurements are goods, and desired, otherwise there is neither uncertainty nor choice. Choice means just this uncertainty and consequent decision as to which course is better. Here emerge, together, good and bad. "The better is the good; the best is not better than the good, but is simply the *discovered* good. Comparative and superlative degrees are only paths to the positive degree of action. The worse or evil is a rejected good. In deliberation and before choice no evil presents itself as evil. Until it is rejected it is a competing good. After rejection, it figures not as a lesser good, but as the bad of that situation."[41]

But choice may be searching and exhaustive, or partial and shortsighted. Here appears the distinction between 'genuine' and 'false' goods. The unification that ends deliberation in action may be only a superficial compromise—not a real decision, but a postponement of the issue; secondly, the unity itself may be fictitious, merely a victory of some impulse over its rivals; a unity by suppression, not a co-ordination. Furthermore, change in the objective content of the act may alter the subsequent status of what was, in the earlier situation, chosen as the better or the good of that situation. Finally, the more numerous and divergent goods or ends become, the more frequently will the judgmental status of any particular good oscillate.

The 'ideal' and the 'real,' too, are deliverances of thought. Both alike emerge as distinctions within the concrete existential content of just those situations where habits and impulses conflict, are arrested or frustrated. This impeding of habit results in the dissolution of itself into its constituent objects. Its function is that of stimu-

[39] *Experience and Nature*, pp. 402-403.
[40] *Human Nature and Conduct*, p. 278.
[41] *Ibid.* Italics mine.

lus for the evocation of a process of imaginative rehearsal in which some definite object or action is hit upon which, if it were present, would unify and integrate these discordant tendencies.[42] Here, together, emerge the ideal and the real. Those objects and acts present or at hand which limit and determine the direction of subsequent actions desired constitute the 'real.' The 'ideal,' conversely, are those imagined ends, or devisements of thought which, if they were real or accessible, would resolve the conflict and entanglement by restoring satisfying ongoing action. As a corollary to this definition, the real is the irrevocable; the ideal, the revocable and tentative.

But, though all imagined ends are ideal in the sense of being something conceived or imagined which represents faith and hope, effort and struggle, not all of these constitute genuine moral ideals. Not just *any* common project, device of cunning or practical expediency is a moral ideal. Common-sense revolts, because common-sense includes above all in its conception of the ideal the *quality* of the plan proposed.

Nor do ideals own any necessarily fixed character. Experience is a moving and creative affair, Ideal acts when brought into existence are real and cease to be ideal, except in the sense that they retain ideal quality only retrospectively as commemorative of issues from prior conflict, and prospectively in contrast with forces which make for their restriction.

Thus the ideal is deprived of all supernatural or transcendent origin or sanction. Further, "It is supposed that the thought of the 'ideal' is necessary to arouse dissatis-

42 Herein lies the origin and meaning of 'desire': "Desire is the forward urge of living creatures. When the push and drive of life meet no obstacle, there is nothing which we call desire. There is just life activity. But obstacles present themselves, and activity is dispersed and divided. Desire is the outcome; it is activity surging forward to break through what dams it up." *Ibid.*, pp. 249-250.

faction with the present and to arouse effort to change it. But in reality the ideal is itself the product of discontent with conditions,"[43] not antecedent to it. Nor is the ideal something remote in the future, to be progressively approached under duress and travail. Its genuine significance focusses in the here and the now, nowhere else: "Peace in action not after it is the contribution of the ideal to conduct."[44]

5. *The good as standard or norm.* Many theories have assumed that standards of good possess a derivation and authority denied so-called common goods or ends. However, the above discussion has, in general, already disposed of this dualism. Its net deposit for the present problem consists in reaffirming that *all* moral distinctions are *subsequent* to specific reflective acts on the part of equally individual selves, and that their complete meaning resides alone in those specific factors that define the content of these situations. But life is, in a large measure, continuous; the significant traits of many experiences are essentially identical, i. e., action is for the most part habitualized. Hence, a particular choice in one situation continues to remain the choice of others. Subsequently, these tested and verifiable consequences undergo social stabilization and institutionalization, so that they become more or less durable attitudes, expectations and demands, i. e., social habits and customs, on the part of the group. The more stable and pervasive of these become the 'virtues.' Their social or objective status undergoes transformation into 'inner' or 'personal' determinants of conduct; they become the 'stuff' of individual desire, purpose and habit. Thus, through wide social attestation and verification many goods or habits gain durability and de-

[43] *Ibid.*, p. 260.
[44] *Ibid.*, p. 264.

pendability; these are the 'standards,' 'norms,' or 'principles,' in terms of which subsequent action is judged.

This is but a restatement of the proposition that norms present themselves as goods in the same way as all other goods present themselves; they all alike, standards included, possess a similar origin and status as goods. But, when some particular good, reflectively and genetically derived, becomes a norm, it assumes a new logical function for thought. "Standards are those goods which have themselves as standards."[45] A standard is "only another name for an object of a particular liking."[46] Furthermore, any particular norm is a norm in and for that particular situation only; vary the constituents of the concrete situation and the competing goods therein vary commensurately. Yet, all standards are but one or some among the concrete content of goods present in the individual case. Put otherwise, *any* good *may* assume the rôle of norm in *some* possible situation; just which good will function thereas will depend upon the interests present in that situation. In fine, to speak of standard at all is but another way of indicating a necessary aspect of all moral choice; to choose is perforce to judge between the merits of two or more proposed acts. Genuine choice moves piece-meal, i. e., attention is focal or individuated; the more dominant and persistent of those tendencies or habits present constitute the standards or principles of evaluation. "Standards of goods or values are derived from the action itself, not from without."[47]

Nor are standards privately or individually determined as to their content. While personal standards are not always socially appraised and rectified, even in those cases where this social sensitivity is relatively absent, all desires,

[45] *Experience and Nature*, p. 425.
[46] *Ibid.*
[47] *Essays in Experimental Logic*, p. 374.

liking and habits are already conditioned by, and are in some sense a function of, prior social judgment. For example, the individual member of the board of directors of a corporation may hold out for a reduction in wages for the employees, but the thirst for maximum dividends is itself an end whose derivation and force are social. All this is, for Mr. Dewey, but common-sense articulate, but of this view, "It is sound as to the need and possibility of objective criticism of values, it is weak as to the method of accomplishment."[48]

Moral standards become, thus, but another name for social customs, in particular, when these function as terms in individual choice. But, have not customs been the dog-in-the-manger of much traditional moralizing? "What authority have standards and ideas that have arisen in this way? What claim have they upon us? In one sense the question is unanswerable. In the same sense, however, the question is unanswerable whatever origin and sanction is ascribed to moral obligations. In an empirical sense the answer is simple. The authority is that of life. To ask these questions is equivalent to asking: Why live? And the only answer is that if one is going to live one must live a life of which these things form the substance. The only question having sense which can be asked is *how* we are going to use and be used by these things. Reason, moral principles, cannot in any case be shoved behind these affairs, for reason and morality grew out of them. In short, the choice is not between a moral authority outside custom and one within it, it is between adopting more or less intelligent and significant customs."[49]

Roughly speaking, three criteria of moral standards or ends may be cited: (a) standards must be an outgrowth of existing conditions; good ends cannot lie outside those

[48] *Experience and Nature*, p. 427.
[49] *Human Nature and Conduct*, pp. 80-81.

concrete situations to which alone those ends are relevant; (b) the standard must be flexible; it must be capable of alteration and growth to meet changing circumstances; and (c) the standard must always function toward a freeing of activities.

Finally, we append a brief statement of the true nature and function of principles or norms. They are but generalizations, more or less adequate, of common goods. "To regard such things as standards for the evaluation of concrete topics—is to subordinate to an abstraction the concrete facts from which the abstraction is derived."[50] "All principles are empirical generalizations from the way in which previous judgments of conduct have practically worked out. When these facts are apparent, these generalizations will be seen not to be fixed rules for deciding doubtful cases,[51] but instrumentalities for their investigation, methods by which the net value of past experience is rendered available for present scrutiny in new perplexities."[52] Hence, "Principles are methods of inquiry and forecast that require verification by the event,"[53] or "hypotheses to be tested and revised by their further working."[54] Yet, lest this definition render standards too slippery to serve as dependable values, "There is a long record of past experimentation in conduct, and there are cumulative verifications which give many principles a well-earned prestige."[55] A "principle is intellectually what a habit is for overt action,"[56] i. e., a mental habit. Principles thus, have a dual value; first, as 'present' stimuli to action, they

[50] *Democracy and Education*, p. 285.

[51] Herein is the essence of causistry. Causistry is a device for obscuring the most perplexing aspect of a moral situation, its immediate and concrete solution, by throwing the issue back upon, as a case of, the general rule, or principle. *Cf. Human Nature and Conduct*, p. 241.

[52] *Ibid.*, pp. 240-241.

[53] *Ibid.*, p. 239.

[54] *Ibid.*, p. 241.

[55] *Ibid.*, p. 239.

[56] *Ibid.*, p. 238.

are enjoyed, consummatory, they yield 'peace in action'; second, their *responsible* office as *standard* is instrumental, they are the only means accessible for plotting definite steps into life ahead; they are agencies for growth, not closures or something to fall back upon.

6. *The identity of the moral and social quality of conduct.* A brief statement of the grounds for this identity may profitable proceed under the three following heads: (1) the social origin and determination of the content of 'habit' and 'character,' or 'self'; (2) 'moral judgment,' or 'conscience,' as social function; and (3) the social nature of 'liability' and 'responsibility.'

The genetic-experimental method disposes of the notion of the 'self' as some 'fixed,' 'ready-made' entity possessing cosmic status. Empirically, the self identifies itself with "—a complex of unstable, opposing attitudes, habits, impulses which gradually come to terms with one another, and assume a certain consistency of configuration."[57] "Character is the interpenetration of habits."[58] Disposition, or perhaps better, predisposition, means readiness to act overtly in a specific manner whenever opportunity is presented. 'Impulse,' or 'instinct' is but another name for the propulsive force of habits.

Identification of the self with habits and interests destroys the self-enclosed and exclusive self of traditional psychology. Notation of the *content* of habit brings to light the social derivation of the specific content of the self, or character. Habits are functions of, and find their determinate content in, the given structure and capacities of the individual on the one hand, and the range of accessible social objects on the other. Of especial importance is the fact that the objective aspect of habit supplies, *par*

[57] *Ibid.*, p. 138.
[58] *Ibid.*, p. 38.

excellence, its definitive traits. Further, with change and growth, alteration and expansion in this objective range of social objects incorporated within habits effect commensurate modifications in both the affective quality and the specific content of the habit, i. e., of self, or character. It follows, hence, that the content of the self exhibits, upon analysis, its social origin and determination.

Turning to moral judgment, or conscience, as a social function, previous reduction of the content of thought to habits invalidates all 'individualistic' derivations of moral judgment or conscience. As before mentioned, 'we think with our habits'; habits supply the content and structure of moral judgment. But habits become habits only when incorporation of specific objects—social objects or values in the case of morals—into themselves occurs. "The stuff of belief and proposition is not originated by us. It comes to us from others, by education, tradition and the suggestion of the environment. Our intelligence is bound up, so far as its materials is concerned, with the community life of which we are a part. We know what is communicated to us, and know according to the habits it forms in us."[59]

The status and content of conscience are likewise social. Conscience, or moral sensitivity, is but another name for moral judgment. Conscience is 'custom individuated': external rules converted into personal principles. Nor does it enjoy 'rapport' with any sort of transcendental being. As with all other unique functions and distinctions emerging in the life history of individual organisms a *complete* account of its origin, content and function must reside solely in accurate empirical determination of just those causal agencies which condition its appearance and shape its subsequent development.

As regards its origin, individual structures and their

[59] *Ibid.,* p. 314.

behavior-functions furnish the starting-point. When one acts, those about him react to the consequences. Through praise and blame, approval and disapproval, frowns and rebukes, etc., we begin to take the reactions of others into account. "In language and imagination we rehearse the responses of others just as we dramatically enact other consequences. We foreknow how others will act, and the foreknowledge is the beginning of judgment passed on action. We know *with* them; there is conscience. An assembly is formed within our breast which discusses and appraises proposed and performed acts. The community without becomes a forum and tribunal within, a judgment-seat of charges, assessments, exculpations. Our thoughts of our own actions are saturated with the ideas others entertain about them; ideas which have been expressed not only in explicit instruction but still more effectively in reaction to our acts."[60] Thus, moral judgment or conscience is socially derived; social values supply its definitive content.

Closely akin to that of conscience, is the social quality of 'liability' and 'responsibility.' "Liability is the beginning of responsibility."[61] But liability means external pressure, the legal; it represents the impact of social forms upon the growing individual. "We are held accountable for our acts," others "visit their like and dislike of those consequences upon us. Approbation and disapprobation are ways of influencing the formation of habits and aims: that is, of influencing future acts. Gradually persons learn by dramatic imitation to acknowledge that deeds are our own, that their consequences come from us."[62] By 'responsibility' is meant "an element of intellectual attitude," or "the disposition to consider in advance the probable

[60] *Human Nature and Conduct*, p. 315.
[61] *Ibid.*, p. 315.
[62] *Ibid.*, p. 316.

consequences of any projected step and definitely to accept them; to accept them in the sense of taking them into account, acknowledging them in action, not yielding to mere verbal assent."[63] That is, moral responsibility means incorporation into the self; liability denotes that measure of conformity due to pressure from without which an individual must heed in order to live at all. The individual is genuinely moral in so far as he himself is already social in impulse, feeling, desire and habit; i. e., in conscience, disposition and character.[64]

How assess the theory outlined above? Space forbids discussion of its more technical aspects, such as its realistic, idealistic or pragmatic implications, its identification of moral judgments with judgments of practice, its reflective derivation of contemplative and esthetic values, etc. Furthermore, lack of specific clarity in its technical formulation renders profitable discussion of these points of dubious worth. Indeed, the merits and defects of Dewey's theory lie in another dimension, namely, in terms of its spirit for articulating the significance of scientific method, coupled with its thoroughgoing naturalism, as these have left their impress upon moral theory, plus its adequacy in making explicit the dominant beliefs and attitudes uppermost in our American democracy.

That the above account embodies many desirable reforms for morals may be granted. The extension of morals to embrace all of life's significant concerns; the reconstruction of the whole moral perspective in terms of a genetic-experimental method; the distrust of the vagueness and ineffectiveness that shrouds much current moralizing; the imperative necessity for a re-examination of traditional values in the light of our present fund of

[63] *Democracy and Education*, pp. 209-210.

[64] While these factors, at any given moment, may be sharply opposed to what is socially desirable, their *prior* social derivation remains unimpaired.

scientific knowledge; the insistence upon the employment of all available intelligence in the solution of moral perplexities; the location of intelligence within the activity of concrete individuals; the earnest warning against over-reliance upon transcendental agencies in the direction of human affairs; the direction of attention upon the trivial and esoteric character of many of the so-called 'exclusive' goods of the past and present; zeal for investing the goods and interests of the common man with dignity and worth; denial of 'autonomy' and 'supremacy' to the interests and prerogatives of the favored few; protest against preoccupation with abstractions at the expense of present urgencies; the stimulus to self-reliance; the preservation of the spirit of reform that has pervaded Protestant Christianity—these, and doubtless other features of Dewey's theory should arouse no serious objection.

Yet, we need be reminded that Dewey's theory owns no exclusive title to these preachments or to the label 'naturalism.' Nor is it fully cognizant of the impact of this same scientific-genetic method upon idealism and other schools. Its undue narrowing of attention to the combating of the 'supernatural,' the 'transcendent,' 'fixed,' and 'ready-made' frequently impresses one as a combat with a man of straw. Perhaps, in its preoccupation with clearing the tub, it 'has poured out the baby with the bath.' We conclude with an indication of three or four respects in which this latter seems to be the case.

If past theory has overemphasized the 'fixed,' 'final' and 'complete,' Dewey's wholesale castigation of this tradition is as short-sighted as it is fatal. Obviously, much here needs to be discarded; in its emphasis upon this necessity, pragmatism had rendered yeoman service. But, in swinging to the opposite extreme, new troubles and deficiencies beset it. With all its emphasis upon the

'changing' and the 'unique,' life still moves in terms of precedent, tradition, etc.; to the degree that life is continuous, and not sheer flux and caprice, tradition or custom supply indispensable guides. Then, too, the terms 'novel' and 'unique' need clarification. Obviously, nothing is completely unique; in fact, its very uniqueness must be funded in terms of past values and habits. That we need to cultivate open-mindedness can readily be granted, but this insistence can easily be overdone.

Secondly, Dewey's insistence upon locating the meaning of the good in the present is open to serious objection. According to Dewey himself, the very nature of meaning transcends the present, no object comes fully labelled with its complete or eventual import. In fact, moral goods reach both into the past and into the future; these differences in denotation are part of the nature of meaning. Just what is known is retrospective, what we may expect by way of eventual outcome or consummation is future. The past supplies both the materials of future experimentation and determines, in a large measure, its eventual character.

Thirdly, the complete social derivation of all moral values is a very dubious thesis. As a reaction against the extreme individualism of the eighteenth century, well and good; but the doctrine negates the possibility of individual and social progress which, curiously, is the chief burden of the whole school. It is one thing to say that moral values derive not from 'ready-made' faculties inherent in an individualistic 'self' conceived a priori, and a vastly different thing to say that the complete content and meaning of different individual characters, dispositions, habits, desires, likings, ideals, etc., are fully explained in terms of 'individuated customs.' The changing panorama of moral goods evident in any genetic account demands *some* indi-

vidual creative contribution not fully accounted for by merely shifting the locus of customary values.

Nor, in the fourth place, is it difficult to overlook the worth of many so-called 'private' and 'specialized' goods. All moral goods 'are not on just the same level.' This is true neither in individual judgment nor of values taken more generally. Judgment itself *means* the discrimination of goods into better and worse, if but for that situation. But, when the good of that situation conflicts with the good of any other—as they eventually do in some way or another—the same process of relative evaluation occurs. And who can say where this process ends? If anything other than this is meant by the common employment of such terms as 'higher,' 'supreme' and 'consummatory,' in contrast with 'lower' and 'instrumental,' we fail to detect it. Furthermore, often the finest and most effective impulsions to genuine moral progress have largely come about through patient and individual opposition to dominant social habits and customs. Inaccessibility at any particular time for general consumption is, in itself, no indication of its eventual worth; indeed, if we mistake not, men value most just what is least accessible, or most difficult of attainment.

'Give a dog a bad name and hang him.' Just now the more fashionable astigmatizations derive from abnormal psychology, with its eye single upon 'normalcy' and 'statistical averages.' Mr. Dewey has not hesitated to avail himself of such terms as 'trivial,' 'dilettentism,' 'idiosyncratic,' 'pathological,' etc., in castigating many historical and specialized interests. Yet, these same interests persist, men still find in them delight, happiness and satisfaction; lack of interest therein ought not to breed contempt for them.

Finally, the theory outlined above suggests an ethic of

the most vigorous period of youth. Whether this is a sign of immaturity, as has been charged, can be passed over, but it does remain true that its inordinate emphasis upon action and success partially or wholly obscures the recognized worth of reflective and esthetic experiences in and of themselves. Further, preoccupation with diversified concretes cannot yield that broadness of perspective, that calmness, unity and joy of spirit so requisite in these troubled times. Whatever may be the defects of so-called abstraction and detachment, it remains true that these most conduce to the achievement of those very things which, after all, come preciously near to being our finest moral fruits. Total immersion in 'things' yields few such values. 'By their consequences ye shall know them!'

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THE IDEA OF GOD IN A PHILOSOPHY OF EVENTS

IN a philosophy where the only real is the infinite texture of events, and where objects, eternal or temporal, are but qualities—aspects—of events, can there be any room for the idea of God— a God who acts and is and makes a difference in the lives of men? Accepting the basic assumption of this philosophy, that in any section of the universe involving a period of time, (some duration is necessary for any event to occur, so that the section must have some temporal thickness) all the fundamental elements which go, or have ever gone, or will ever go into the making of the universe are to be found—we may not be able to find them but they are there—do we find anything upon which we can base a description of God—a God who *works?*

Events require space and time and objects for their occurrence. These are the characters of events, and without them events could not occur. They are not real in and by themselves; taken by themselves they are abstractions from events, non-existent names seeking incarnation in events in order to obtain a foothold in reality. It is no more rational to say that events are in time than it is to say that time is in events. Without events time and space and objects would disappear into nothingness—the universe itself would be no more. Could God then, still, be left behind? For this philosophy, if God is a necessary

ingredient in events then events are a necessary ground for the actualization of God. God, too, abstracted from events becomes an empty name.

Two ideas of God may be dismissed as incompatible with this view of the universe: (a) the idea of a detached creator God, almighty, self-sufficient, alone—a God with a prearranged plan which he is working out in a finite, creature universe; (b) the idea of God who is the "whole" —the name for the whole complex pattern of events—the God of an empty pantheism; this would give us merely another name for what has been called the all-pervading "ether" of events.

Is God then the name we give to a tendency to a definite and determined order in the course of events—a tendency for events, in spite of their unique individuality and infinite variety, to assume a certain order and fall into regular and recognizable patterns? There is such a tendency manifesting itself in all grades of being—in the physical and social realms and, also, in the intellectual and emotional realms; electrons may run blindly, but, nevertheless, they tend to run into the definite patterns and measurable ways which are the basis of all rational physics; societies have their recognizable tendencies; thoughts to be intelligible must obey fundamental laws; and even our emotions express themselves in recurrent ways which can be read and understood. This ever-present tendency is the fundamental basis of the "meaning" of events. Without it events could not be, for an event is the actualization of a meaning.

In this philosophy, where events "make" time and space and all that is, is there room for a God who is any other than just this impersonal tendency—a God worthy of worship? There is literally no *place* for such a God outside events; there can be no room for such a God acting

as a separate entity among events—putting in a finger here and there. Whatever God we find must be found ingredient within events, and relative to all that goes on in events. Can we find such a God?

In any occurrence in which we, as conscious individuals, take part, we recognise an external world with its aspects of matter and power, of harmony and beauty, of terror and disorder, and its centers of organization in plants and animals, these centers becoming ever more and more conscious of themselves and of the world of events in which they are themselves immersed as active ingredients. In man we arrive at a self-knowledge of the meaning of this tendency to order. But this self-knowledge of the meaning of the universal order is not something outside and independent of the order; it is a product of the action of the whole, full event—it is a real *self*-consciousness—the event's consciousness of its own inherent action.

This self-knowledge of a tendency and of meaning can only take place with the help of memory and foresight —a tendency is a transition from a past to a future; and at any moment in its course it reflects the past and is pregnant with the future. A meaning is a product of stored experience and carries with it a promise. Memory and foresight are both inherent in the nature of things. There is a stored "experience" in physical happenings; they hold within themselves the gathered fruits of the past and also the promise of the future. These fruits and this promise are *there* in the absence of human relations; but in the presence of men new relations and new meanings arise within the complex event, and meanings can now be read and utilized in conscious intelligence.

History and prophecy are both, in some way, wrapped up in the present; memory and foresight are here, in the

present moment, or are nowhere. The answer to the poet's questions:

"Tell me what is a thought? and of what substance is it made?
Tell me where dwell the thoughts forgotten till thou call them forth?"

would seem to be that thoughts have no substance; they are "nowhere" until they are called up by the actual occasion. History is realized in the present active moment. In memory the historic process becomes conscious of itself and of all it holds.

So that, in man, we find what Dewey has described as a "moving, growing, never finished" process becoming conscious of itself, and so, within limits, self-directive.

Events have individuality and definition, but there is no gap in events—they run into and overlap one another in endless ways. There is no gap in the process: the process is without beginning, without end, and without a gap—everlasting. As suggested at the outset of this paper, all our evidence points to the fact that in any section of the universe the fundamental process, and the elements through which it manifests itself, are everywhere and at all times the same—the chemistry and the physics of the most distant (in time and space) stars are inferred to be the same as the chemistry and physics of our own little earth. There may be, and, indeed, there are very many things "going on" in the world of which our limited senses are unaware, but which, nevertheless, are elements in the total reaction which is the event. These unrecognized "goings on," too, must ever have been there.

Although there is a "tendency" in things which suggests a procession from and a journey to—a change—we cannot conceive of a universe, which is without beginning and without end, as being something essentially different

today from what it was yesterday; the process is the same; the formative elements are the same—in fact we seem to have with us today all grades of prehensive activity—all stages of the process from that of the electron to that of the conscious mind of man, and whatever may be beyond. A section of the universe, taken as a whole, would have given us much the same picture a million years ago as it does today. There may be ultimate truth in the idea that the universe, as a whole, is not in process of change; the steps in the progression are not grades *of* the whole cosmic order, but grades or states within the universal order through which the individualized process must take place:

"The pilgrim passes whilst the country permanent remains:
So men pass on but states remain permanent for ever."

Deity (if God there be) and undifferentiated power—spirit and matter—would seem to have been always with us; both are utterly relative and inseparable. Spirit arises in and through the process; matter is ever there to form the ground in which spirit lives and enriches itself. The world we know is the actualization of the eternal process as manifested to the mind of man. It is the real world—the world of events.

At this stage we may be tempted to fall into the fatal error of "bifurcation" and "misplaced concreteness"; we may go off with the absolute idealist and forsake the world we know as *mere* appearance; or we may join the objective realist and, making the physical happenings the only real, find no abiding place for spirit. But the one path is as fruitless as the other. The event is the unit of reality. An event is not made by the bringing together of two more ultimate units—spirit and matter; but in the one occurrence—*the one indivisible whole*—both mat-

ter and spirit arise and find their real existence. They are real *qualities* of events.

A process in which the character of the whole changed from day to day, and from moment to moment, could never be known; there would ever be a new heaven and a new earth; history and science would both be reduced to lists of names without meaning. In fact, there would be no process but perpetually new creation, no knowledge but perpetually new and incomprehensible facts.

The universal "tendency" becomes, in consciousness, "desire"—desire for harmonious, understandable relationships in the external surroundings, both physical and social, and in all the many-sided internal activities which go to the making of a personality. Man desires to know the pattern into which all things tend to fall; and together with the acquired fruits of knowledge—memory, insight, foresight—he discovers, within himself, power to further or impede the realization of the universal order. The transient visions which he obtains of this order he finds lovely and lovable—he loves them; and in loving them he gains aesthetic satisfaction—joy. All the multitudinous experiences through which, in space and time, the route of a man's life passes are, in memory, blended together into one enduring, organic whole—the character of the man.

But man *is* a microcosm of the universe; and in his highest moments, in and through the consciousness of his infinite smallness, he has visions of his infinite greatness —in fact, the one implies the other. He knows that his physical world is a grasping together, no matter how feebly, of the elements of the infinite whole; he realizes that his knowledge, no matter how limited, reaches to the border of an infinite realm which is there for his exploration. He has only to look around him to see in crystal, in tree, in insect, bird, and beast, unbounded evidence of

the working of the same memory, and the application of the same power, and the realization of the same joy he finds within himself.

The unpardonable sin, in man, is not the sin of pride in his own origin and infinite relationships, but the sin of separating his very finite self from the universal whole in which he lives and moves and has his being—the sin of taking his own little perspective too seriously and contemplating himself as a "self-made" man. Man does transcend himself in every direction. There is a transcendent world, but it is not another separate world cut off from this world of time and space. It is the universal whole in which this world of ours, and all our little private worlds, find themselves constituent elements. Into this whole man has access according to his prehensive power:

"With what measure ye mete it shall be measured unto you." The capacity of our measure is in proportion to the effort put into its construction. To every occurrence in the life of man the universe makes its contribution. In the realm of the spirit this contribution is the theological "grace"—the something added which the occasion, in isolation, does not justify, or explain.

Man's consciousness is set as a center for the prehension and the apprehension of the content of the world. When he looks around him and within does he find God?

He finds an all-pervading power with a tendency towards the manifestation of a certain order (a tendency to a definite order must be accompanied by other tendencies hostile to and destructive of itself). In himself this power with a tendency, illuminated by intellect and enriched by memory and foresight, becomes conscious of itself as a will with a purpose—a desire for the realization of ideals; it is the enduring character or spirit of the man—the stabilizing element in all the many experiences which

make up the life of the man; and that by means of which he is the same *person* yesterday, today, and tomorrow.

Consciousness, memory, insight, foresight, and self-directing will are in the nature of things—they are the attributes and the outcome of the infinitely complex, inter-related whole. In man his conscious life, soul, spirit—call it what we will—is an over-shadowing presence in which the innumerable events which go to the building up of the human organism live and move and find their meaning; and to every event, from the "running" of an individual electron to the most profound act of moral judgment, this spirit makes its contribution—to each occasion according to that occasion's capacity and according to its need. Against all the laws of physics, in this act of the giving of itself the spirit is ever enriched.

The actualizations of the spirit may be discrete, so that spirit only exists in individualized events; but even in our human organism the patterns of events so intermingle and overlap, not only in our waking hours but in sleep, that consciousness, with its stored memories, makes one continuous life.

But man's life is short. His experiences, to all appearance, cease at death. He seems to make his contribution and be gone. His *contribution!* Contribution of what to what? —Contribution of the fruits of the spirit to the enduring character of events.—Perhaps in this "contribution of the fruits of the spirit to the enduring character of events" lies the key to the solution of the problem upon which we are attempting to throw some light.—Can there be any conceivable meaning in the contribution of the fruits of the spirit to a blind mechanical process or tendency? Can we deny to the everenduring process which runs through all events, and is the life of the universe, the same fruits of experience which we find within our-

selves—fruits infinite as the experiences themselves are infinite?

Consciousnss, memory, insight, foresight, power,[1] and self-directing will, all perfect in and through eternal experience, together with an infinite capacity for love and joy in action, would give us all we mean by God—not a distant contemplative God, nor a God who is just the sum of all that goes on, but God who is the immanent life—the full meaning—of the infinitely complex "divine" event which is the perduring universe.

There are two common expressions in use to denote the reactions of a man's personality to the events in which he is involved: we speak of a man being "on the spot" and "all there." Both expressions are quite suggestive of what happens; when we are pricked by a pin our consciousness, and our subconscious, protective processes are "on the spot"; when we face a profound moral problem we are "all there" to meet it with our whole accumulated spiritual strength. The occasion grades the quality of the life we give out. So, too, the enduring consciousness, which is God, is ingredient in each and every event to enrich and re-enforce the powers of construction, and to frustrate and eliminate the powers of destruction. Here, too, the occasion with its capacity and need grades the quality of the life poured out.

In this philosophy God is never a self-sustaining entity moving in the interstices of events. He is in events as one element in an indissoluble, organic whole. Being a necessary element in an organic whole God cannot be abstracted from events—without God there could be no events. But for the same reason it follows that without the perpetual interaction of the other elements in the "course of events" God, too, would disappear—there

would be no ground from which the conscious activity we call God could spring.

This, I take it, is the limitation of God: He is bound to events—not alone to events as we, with our limitations, know them, but to events known and unknown. It is this immanence of God in every event which is the "objective" ground of our insight into and knowledge of values of universal validity. God is the ultimate measure and criterion of all our finite values and judgments. He is the hidden root of the values which give meaning to the joy of self-sacrifice.

The deistic, legalistic Pharisees judged Jesus to be worthy of death because he said "I am the son of God" and taught men to call God "Father." It was blasphemy to claim that God could be incarnated in man, and to teach that they, who would *see* God, must see Him in his children. Theologians, in the past, would seem to have gone over, largely, to the Pharisees in their fear of recognizing the *natural* relationship of man to God. Are we, through philosophy, coming, in these days, to a religion which will take Jesus at his word, and see, in God, a God who "works":—"Hitherto my Father worketh and I work"; a God who, with Wisdom, "rejoices in the habitable parts of the earth and whose delights are with the children of men?" Are we near to the time when men will see in men the "likeness" of God, and seek in human relationships to find God—the Living Bread—the Bread of Heaven?

[1] Perfect power is power in perfect control of the situation, not power able to *do anything*. Almighty power, power without resistance, is meaningless.

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CAN PSYCHOLOGY CONTRIBUTE TO THE STUDY OF LINGUISTICS?

IN the study of language the psychologist and the philologist must meet at some common point. There is no escaping this attitude. And yet an uncrossable chasm separates them.

Language, all the philologists agree, constitutes activity. Now is it not precisely the work of the psychologist to study action? And this includes language activity as well as every other type of psychological adjustment.[1] The great importance of language should make it stand out as a highwater mark in psychological study.

And yet it is not an unusual incident for the philologist to rule the psychologist out of the field of linguistics. Thus it is asserted that the conditions of cerebral activity, which are the main business of the psychologist, remain outside the field of the linguist.[2]

The expulsion of the psychologist from the linguistic garden is an old story. Recall the passage at arms between Delbrück and Wundt. The latter offers his two volume work on the psychology of language as an improvement over the Herbartian psychology. Delbrück delivers the coup de grâce in his declaration that, granting that

[1] As will appear in the sequel, two kinds of activity are referred to in this paragraph. The activities spoken of by the linguist are merely movements of the speech organs (including all anatomical parts relevant to speech.) For the psychologist an action is an adjustment, an adaptation to a stimulus.

[2] Vendreyes, *Language*, p. 66.

Wundtian psychology is superior to the Herbartian, for the linguist it makes no difference.[3]

Again, Jespersen, a philologist with a keen regard for psychological aids in linguistic scholarship, refers to the author of these two weighty tomes as "much less of a linguist than of a psychologist and whose pages seem to me often richer in words than in fertilizing ideas."[4]

Now let it be clearly understood that if the philologist refuses psychological coöperation, it is the psychologist who is to blame. For what is the psychological procedure in linguistics? Nothing more than an attempted explanation of philological facts by the medium of psychic causes and psychic processes.

Now the secret is out. Why traditional psychology cannot contribute to linguistic scholarship is transparent. Language can in no fashion be regarded as an expression of ideas, desires, or feelings. Nor is it a physical medium for "psychic" processes. Language must be treated as in a genuine sense behavior. The matter has been exceedingly well put by Weiss. "As a form of behavior, language represents biological, physiological, and social conditions; as a medium of expression, it assumes the existence of non-physical forces or types of psychical energy whose existence has not been adequately demonstrated. Therefore, when the psychologist finds himself confronted with the request to make a "psychological" explanation, or a "psychological" interpretation of a careful and detailed linguistic investigation, he is unable to add anything and

[3] *"Man sieht, für den Praktiker lässt sich mit beiden Theorien leben." Cf. Grundfragen der Sprachforschung,* 1901, p. 44. Again, *"Wohl sollen nach Wundt's Meinung die psychologischen Grundbegriffe, deren wir uns bis jetzt bewusst oder unbewusst bedient haben, durch andere ersetzt werden aber das Gebäude, dem so ein anderes Fundament untergeschoben werden soll, wird doch einen durchgreifenden Umbau nicht erfahren." Ibid.,* p. 176.

[4] Jespersen, *Language,* p. 98.

if anything is added it often only obscures the investigation."[5]

The philologist is quite right in ostracizing the psychologist. As long as psychology concerns itself with mentalities it can add nothing to linguistics. Worse still, it distorts the facts. Here is a typical example of how traditional psychology describes language.

Speech begins with a mental process, an idea, feeling, or desire in the mind of A. Somehow this psychic material is converted into or transmitted to the motor nerves that control A's organs of speech. The motor processes with their phonic products constitute the means of conveying the idea or desire to B. This communicating or conveying of the mental processes is, however, not completed until the sound is conveyed to B's mind where the auditory perceptions are translated into the appropriate and intended ideas.

What an unsavory mixture of "mental" and "physical." But this sort of thing need no longer be regarded as psychology. To understand the psychological fundamentals of language it is only necessary to turn to scientific psychology. Only when we do so can the psychologist and philologist work shoulder to shoulder. We go further. We insist that there must be psychological and philological coöperation in order that some of the problems of language be solved at all.

What are some of these issues? Before attempting a statement of scientific psychology, which can really be employed in the linguistic field, or in any other for that matter, we might suggest some problems requiring coöperative study.

Let us turn first to fundamentals. Why do philological descriptions of language always fall far short of what per-

[5] *Language*, 1925, I, p. 52.

sons actually do when they speak? Observe this enormous paradox. Philologists agree that language must be human activity. In fact they say too that it must be mutual activity on the part of at least two persons. But unfortunately it seems inevitable that they should immediately shift from activity to symbols, fixed forms. Jespersen puts this matter perfectly.[6] But he is mistaken in saying that it was only in former times that this fact was overlooked. It is just as true today as at any previous period that words and forms are treated as though they were things or natural objects with an existence of their own. Furthermore, this must be true just as long as language is regarded as expression and communication. Would it not be a contribution of psychology to indicate that speech is not merely the production of verbal-auditory symbols?

The first coöperative contact of the two sciences is therefore methodological. To understand the actual nature of language we must approach linguistics with adequate conceptual tools. When we arm ourselves with adequate psychological equipment it will be quite clear why grammar cannot cover actual language. For is it not a tribute paid to psychology when the philologist says that it is not unreasonable after all to claim that there are as many different languages as there are individuals.[7] Instead of regarding grammar as a vessel which spills over, it should rather be considered as a net which, in a very inadequate manner indicates the drift of the language at the time it passes through its meshes.[8]

Psychologists and philologists must jointly attack more

6 "The essence of language is human activity—activity on the part of one individual to make himself understood by another, and activity on the part of that other to understand what was *in the mind of the first.*" *Philosophy of Grammar,* 1924, p. 17. We italicize the part of the statement that conceals the joker.

7 Vendreyes, *Language,* 1922, p. 235.

8 As we shall see later, psychological coöperation can only be useful in part of the linguistic field.

intimate problems also. What is a word and what a sentence? Is it true that a word is an independent or indivisible unit? Or must it be regarded as a dependent element existing only in a condition of relativity with other elements? Can these questions be solved by the philologist without psychological aid? Let us dig a little deeper. Are words exclusively the elements of a sentence which define or carry separate ideas, concepts, or conceptual relation, while the sentence as a whole has no conceptual significance whatever? Or, is the sentence the carrier of meaning and thus the essential linguistic element?

Such questions of course lead to the problem of the relationship between ideas and the linguistic elements which express them. What is a semanteme really? And what a morpheme? Is there a principle relating them? Is it possible that morphemes are genuine phenomena if they range all the way from affixational formatives, to order of semantemes in a sentence? Are ideas always carried by roots or semantemes? Can affixative morphemes perform this function as well as whole words? Is it possible to order linguistic elements in a hierarchy using importance or fundamentalness as a criterion? Do only semantemes represent basic ideas as compared with linguistic elements which indicate number, gender, or person? Do these confining schematisms do justice to the dynamic or living character of language?

Let us turn now to still more concrete issues. Cannot the psychologist help the grammarian to seize hold of the vital and fleeting elements of speech? What is the relation of tense to time? Can there be or should there be a definite relationship between the temporal existence of an event, the idea of it in the mind, and the linguistic expression of the idea? How can we reconcile a spoken historical or unhistorical present with English grammar?

Similar queries arise with respect to the parts of speech. One grammarian describes them one way, another gives them an entirely different description. Some philologists throw parts of speech entirely out of the linguistic field (Brunot); others hesitate only at the noun and verb (Sapir). Somehow this all means that the psychology of speaking must have a place in the linguistic system. There is no alternative.

A final example: the problem of interjections. How can this persecuted member of the linguistic kingdom be properly treated? Very few grammarians wish to include interjections in the grammatical scheme of things. And yet, like the scriptural poor, they are forever to be reckoned with. Do we not have here another symptom of the need to replace the affinity of language for formal logic, with a more serviceable liking for scientific psychology?

Now we are ready to suggest a reformulation of linguistic psychology. As we have already intimated, scientific psychology throws completely overboard the distinction of the mental and physical. Naturalistic psychology can find no merit in the division of mind and body. It can find no fact in nature describable as the translation of psychic states—ideas or what not—into the motions of lips and tongue. It is not within our province now to go into the origin of the misconceptions that lie at the basis of mind-body distinctions. Suffice it to say that they could only have arisen by misconceiving the psychological facts actually observed.

Psychology is the science of the reactions of individuals to stimuli. The two variables which the science demands as the minimal description of an event are persons and the objects to which they react. These objects may be persons or things. In many cases the reacting person is in direct contact with some object. Such is the situation when I

withdraw my hand from a hot object or when I observe a ball or person moving toward me.

Another distinct type of psychological event occurs when the reacting person is not in direct contact with the stimulus object. The reaction may occur in the absence of the object. Now that I am at home I can only think of or remember the picture at the museum. The difference in the reaction here is owing to the fact that something other than the picture serves as a substitute stimulus to call out my response to it.

Now language actions are also adjustments or adaptations to objects. With this addition. In the case of language we have a triadic relationship. That is, there are three variables in the linguistic event. One is the reacting person, the second is the object to which I refer by verbal or gestural response, and the third, some other person to whom I also react. The third variable may be the speaker himself. Language is the only type of psychological situation that involves such a triple situation.[9]

Mark this point well. Language is adjustment. It is activity. What is the nature of the adjustment? What happens when one speaks? In effect the speaker refers, and the hearer is referred, to some thing, person, or event. The event is the adjustmental stimulus which we have mentioned. For instance, A says to B, "the car is wrecked." What happens here is that A reacts to the event of the car-wrecking, and to B at the same time. The actions of A and B both constitute responses to the object. The interrelationship between the two persons and the event is made possible through a historical development which we may roughly sum up as learning to make lan-

[9] This we say because in the thinking reaction the response is made directly to, though not in direct contact with, the stimulus object. The substitute stimulus is an intermediary, standing on a lower level than a direct stimulus. *Cf.* Kantor, *Principles of Psychology*, 1926, Vol. II, Chapter 23.

guage adjustments. Naturally there is involved here, besides the speaking reactions, responses of understanding, but these in no sense imply any ideas in the "mind" as we have already shown. Understanding the wrecking event is merely a more subtle form of reaction than actually participating in it. We may also say it is in a definite sense developed from it or from similar situations.

To assert that language is adjustmental action is to deny utterly two clearly related propositions. The first is that language is the expression of ideas. The fallacy of this conception has already been sufficiently revealed. No less false is the proposition that language consists of a set of symbols.

Scientific observation of language demands that we reject the belief that speech is primarily concerned with symbols. We must eschew both the conception that a linguistic fact is a symbol, and that it is a process of making symbols. We may well ask what is an act or a word the symbol of? The traditional answer is that it is a symbol of the idea that one has in "mind." If language is interpreted in this way it is incumbent upon those who accept this interpretation to show the existence of such ideas.

If such things do not exist then the symbol theory must be rejected. We repeat once more then that when A tells B of some event, he merely adjusts himself to two stimuli at once. His action may be facial or hand gesture. He may point to the object or he may say what he has to say verbally. But if words are only some of the ways of responding we can hardly think of even the words as symbols. Once more, language is what persons do by way of acting to persons[10] and things simultaneously.

[10] In extraordinary situations both stimuli may be things just as in many cases they are both persons.

That speech[11] is a process of making symbols is probably based upon the belief that when one speaks one does so primarly for the benefit of a hearer. But the speaker himself may be the hearer. For certainly one can talk to oneself. But in such a case are symbols necessary? Again, unless one actually makes written or printed material the criterion of language instead of action, it is incontestable that two persons can converse without any formal words. It is sheer perversion to deny the silent speech of lovers. In general, if language is adjustmental action then linguistic behavior is nothing but bistimulational or reference acts.

How can we apply these psychological facts to linguistics? In what way can it help us in our language studies, in what way aid us to rationalize or humanize grammar?

Probably the first application of linguistic psychology is in the separation of what is from what is not language. By using the criterion of adjusting oneself to certain things we should have an instrument for effectively handling language phenomena.

Is lexicology a part of grammar? The question can be decided in this way. If we regard the dictionary as a record of the various methods by which persons react to different things then lexicology certainly belongs to grammar. Accordingly the various dictionaries represent the comparative behavior manners of different human groups. On the other hand, if words in a dictionary are considered to be simply symbols standing for things, then lexicology finds no place in the grammatical field.

Of what aid can our psychological conceptions be within the domain of language proper? Let us look first to the

[11] At this point we may distinguish between speech as living language and other phases of language which deal with inert words.

organization of the different facts, some of which vary enormously from others.

How are syllables, roots, affixes, words, sentences, and phrases related? How can we arrive at a definite linguistic unit? The answer is clear. If language is a reaction of a person then the unit of speech is determined when we isolate a unit of reaction. Could a word ever be such a unit? Yes, so can a syllable, or even a simple gesture. When we deal with what a person does, we cannot arbitrarily place a limit upon the simplicity of language. We are then not influenced by formal, traditional phonic elements.

Incidentally, of course, phonology can never be separated from semantics. There is no sense to a discussion of sounds of a language irrespective of their meanings. In other words, what the person does or says represents his way of referring to a certain thing or event. To talk about sounds disconnected from meaning is therefore to attempt a separation between what the person does in the way of making sounds and the same action as a reference to a stimulus object.

Turning to a more concrete illustration, consider the grammatical problem of the future. The psychological study of language turns us away from arguments concerning what counters fittingly express the future, to the consideration of what a person does when he refers someone to events that are to occur or may transpire at some later time.

A refers B to the fact that he will go to town tomorrow. In a rational grammar the attempt of the philologist will be to explain how A performs this activity, how he adjusts himself to this situation. In effect he will describe what A does. That individual perhaps will utter a particular verbal formula. Namely, one labeled in the gram-

mar book as the future tense. But if A had not studied that particular grammar book or otherwise learned to adjust himself in that way he might use what the grammar calls the present tense. Whatever he does is well done.[12]

When we keep an eye open to the psychological aspects of language we can settle many grammatical questions promptly. Are the statements "he will arrive soon," "he may come," "I start early tomorrow," "he is going to come," future tense? Who can doubt it? In each we know beyond the shadow of a doubt that a person is reacting in linguistic ways to a future event. Surely we cannot say otherwise. Is not language in great part a method of interaction and social coöperation? Unless the grammarian is alive to the psychological aspects of language he is not a scientist describing what happens under certain circumstances but rather prescribing what should happen. In other words, he is making rules that few if any follow.[13]

Philological coöperation with psychology is no new thing.[14] Regard for psychological happenings in the sense of describing what people actually do is a tendency revealed in the work of most grammarians. That is why they differ. But perhaps what is needed is a thoroughgoing explicit coöperation. When Fries[15] criticizes the writers of school grammars who say that the one means of indicating future time is the combination of "shall" and "will" with the infinitive of the verb, is he not turning from formal grammar to behavior? This fact is apparent when this writer asserts that future is expressed in a

[12] In this sense it would be wrong to say that "it would be wrong to include a separate future in the tense system of the English language." Jespersen, *Philosophy of Grammar*, p. 50.

[13] As for instance the Germans not using the future form of their grammar book.

[14] Think only of the works of Brunot, *La Pensée et la Langue*, 1922, and van Ginneken, *Principes de linguistique Psychologique*, 1907.

[15] *Language*, 1927, 3, 87-95.

variety of ways. Various sentences containing the words, desire, mean, expect, and intend, denote the future. This suggests an examination of how persons actually do react to future events. But the suggestions are limited after all by conventional linguistic forms. Regard for behavior does not go far enough.

Does the statement "he should go tomorrow" lose its function of expressing futurity because it also expresses obligation or desire? We submit that it does not. Would it not clarify the problem of grammar to take account of what the speaking person does in the exact circumstances involved? If so, then we might design our grammars to include reference to time, obligation, destiny, uncertainty, probability and all other specific conditions which stimulate us to react to them linguistically. In the fact that in our grammatical forms we cannot separate future from volition, for example, we might be content to discover an illustration of the truth that language is not the use of symbols. When persons speak they do not signify, but they respond to things.

The study of direct and indirect speech casts considerable illumination upon the psychological factor in language. The comparison of direct and indirect speech presents us with two problems. In the first place, how do these facts comprehended under the terms direct and indirect speech connect with the facts of language in general? What is there unique about such phenomena? Do we not have here merely the fact that a person reacts to another person's reaction? Namely, in direct and indirect speech the adjustment stimulus is some other person's response. From the psychological standpoint it is clear that the grammarian makes too sharp a separation between A telling B about C's action of throwing something, and C's action of saying something. Is not the grammarian too much in-

fluenced here by literary quotation? Abiding by our psychological principles does it make any difference whether A refers to C's crude action of throwing something, his thinking of throwing that object, or his speech concerning the throwing act? Whichever act we are concerned with, does it make any difference whose action is referred to? Is it material whether A tells B of the action of C, B, or himself?

The second problem is to differentiate between direct and indirect speech. What is the essential difference between them? Direct quotation, we answer, consists in an exact duplication of what A himself or some other person has previously done. This is exactly the same situation as the defendant in a law trial being put through the activities that he is accused of having performed. But this reference to some former action need not be so complete in its details. A may attempt to inform B only what was done in effect, but not actually. This is the indirect quotation of the grammarian. In fact he might merely give linguistic suggestions as to what C has done. This is essentially a descriptive reference. It is not living over, or imitating an action but relating or narrating it.

The distinction between direct and indirect speech is then a distinction between responding to an event by reenacting it or by simply narrating it. We have here merely two forms of adjustmental acts. Since the grammarian deals only with verbal action the only complete reenacting behavior can be verbal. But speech need not be so limited. It must not be forgotten either that one might speak of what one imagines someone else has said or will say. In this case and in referring to what one thinks, or has thought, the amount of enactment is seriously limited.

Both direct and indirect speech therefore consist of de-

grees of action. A may reenact for B the whole of C's or his own previous linguistic behavior, or he may only repeat a part. Similarly, indirect speech can cover an enormous series of narrational actions. These will range from complete description to vague suggestion. It is not sufficient to divide indirect speech into two types merely on the basis of the presence or absence of a fixed expression. It is not doing justice to the facts in the case to say that indirect speech is "dependent" when it is preceded by some verb and "represented" when it is not.[16] If there is any value in the suggestion just made the importance of considering the psychological aspects of language is manifest.

As a final attempt to indicate the nature of the philological and psychological coöperative enterprise we may discuss briefly the classification of speech. What is meant by types of language or types of utterance? How many moods are there and how are they differentiated? Questions such as these suggest not only the desirability of attending to the psychological implications but indeed the necessity of so doing.

We suggest that when language is behavioristically treated the grammatical difficulties of classification disappear. All that is required is to take into consideration the adjustment of the speaker with respect to the adjustment and auxiliary stimuli. Is the speaker telling the hearer what he plans, desires, or hopes to do with respect to the adjustment object? Or does he tell the hearer what to do in a certain way, with respect to the adjustment object, at a certain time and place. Again the emphasis might be upon the adjustment stimulus object. Thus the

[16] *Cf.* Jespersen, *The Philosophy of Grammar*, p. 290. Incidentally, taking into consideration the psychological aspects here dispenses with the difficulty of naming the "two" kinds of indirect speech.

speaker inquires about it, comments upon it, promises to do something with respect to it, etc.

Naturally the emphases upon the three variables are combined in numerous ways. The speaker may threaten to do something to the hearer unless he does something to the adjustment object.[17] Or he may warn the hearer that the adjustment stimulus object whether a thing or person will do something to him. In terms of these variables in a genuine behavior situation it is submitted that all language types can be effectually organized.

Of course it is essential to make as many classes as there are different forms of action. There is, however, a serious drawback here. To make too many classes is to have no classification. At least no usable one. Here the question arises whether a formal list of types is necessary. Do we need anything more than a principle of defining a linguistic action or situation?

We propose that this would be sufficient. For, to attempt to make classes in some other way never has resulted in a satisfactory solution of the classification problem.[18] And on the other hand, by using this method the results will be commendably descriptive.

Does our suggestion overemphasize behavior? Hardly, for the grammarian in this situation has all but come upon the behavior method. The very term "mood" implying intention, reaches toward a psychological principle. A mentalistic psychology of course. Now all we need to do is to replace the mentalistic by behavioristic psychological principles.

An illustration. Let us agree that the imperative mood names the action in which A accomplishes something through the agency of the hearer B. This illustration ad-

[17] Which may of course be the hearer or speaker.

[18] Jespersen, *The Philosophy of Grammar*, Chapter 23.

mirably describes a psychological adjustment. "Get that book" is the manner in which A performs a response to the book that he cannot or will not do himself. It is immaterial what the actual stimulus object is, or exactly how the hearer's activity is accomplished. The action may concern the hearer himself as when A says "Get out of here." Also the adjustment A performs, may concern the helping of somebody to do something or permitting him to do something. These could be put in different coördinate classes or in suitable subclasses.

The employment of the psychological principle will enable us not only to classify speech but also to show the inadequacy of organizing language on a formal basis. It will obviate such a statement as "requests are very often expressed by other means than the imperative."[19] Since our principle emphasizes the form of adjustment, "another bottle," *"wollen wir gehen,"* are imperative responses just as much as "come here" or "throw that ball." In fact keeping close to our agreement as to what we should mean by the imperative the most obvious grammatical indicative must be classified as a behavioristic imperative. For example, since A knows that merely to tell B that C has cut down his favorite tree means that B will do something to C, a condition which A wants to bring about, A's saying "C has cut down your beech tree" is an imperative action or sentence. Keeping close to the adjustmental situation is a definite feature of the psychological principle. And so when A knows that B's threat is vain, he will say, "Go on, shoot me." But despite the form this is no imperative.

Our suggestions are at an end. To study living language psychological principles are required. So much then we may regard as established. Now a new problem arises. How far can this psychological coöperation go?

[19] Jespersen, *Op. cit.*, p. 314.

Obviously enough no grammarian is a despotic prescriptionist. But on the other hand, must we not after all respect certain fixities, certain landmarks? Such a query can be answered by another question. If the data at hand offer no limits, provide no barriers, shall we introduce some arbitrarily? By no means. Unless indeed we regard our task as something other than the description of speech or language.

But as a matter of fact the behavioristic attitude toward language takes away no fixity, removes no principle. It merely substitutes a principle based on the nature of speech for one based on dead phonic patterns. Instead of describing speech on the basis of what persons have done as recorded in various writings, we propose to describe how persons actually do behave. The psychological principle merely replaces crystallography with conduct.

Nevertheless there are limitations to the conjunction of philological and psychological effort. There are several considerations to be urged in favor of a separation of philology and psychology.

In the first place, granted that language is not symbolism, but after all is language not formal? If by formal we mean conventional, nothing is more certain than that language is essentially formal.

Humanity marches in battalions. The fact is that patterns appear in the linguistic behavior of persons. Language adjustments are performed according to a code. One reacts linguistically according to fashion exactly as in eating, wearing clothing, or in performing adornment responses. Of course battalions are divided off into companies, and platoons, so we have an elaborate hierarchy of dialects, sub-dialects, and colloquial languages. Much commonness and regularity exist in language behavior. But conventions are not absolute things, though the gram-

marian is sometimes led to think so. When we respect the distinction between symbols and conventions we are enabled to do justice to the fact both (1) that men are organized into groups and (2) that always it is the persons in the groups who perform linguistic behavior. Since the exigencies of living break down group barriers no ultimate limits can be set to the way one will speak. It is precisely the function of the student of the psychological aspect of language to observe the constant breaches of convention. We must submit then that taking account of conventionality in language does not detract much from the coöperative enterprise.

Another consideration indicates a genuine separation of the two types of students. The realm of linguistics is enormously large. Some parts of it, and those perhaps not the least important, are cultivated without psychological tools. There is the whole subject of history. Language must here be handled as dead material. There are corpses to exhume. Fossils to measure and compare. There are linguistic remains of all sorts to be investigated. Here the psychologist has nothing to offer. He merely follows the philologist at this point and connects with him only by drawing inferences as to how people in the past generally have behaved. The philologist here definitely leaves the psychologist behind. The latter may follow at a distance, observe the philologist in action, and learn what he can from the information the latter discovers. Only at the point of living language[20] can the psychologist and the philologist work together.

[20] Similarly most parts of the psychologist's field have no interest for the philologist. Psychology is not restricted to the study of language. Even with respect to language the philologist is not interested in what the brain does and what images are. Only, the philologist says to the psychologist, "do not mislead me into believing that the brain is a kind of thing which mediates between non-spatial psychic ideas on the one hand, and the world of things and actions on the other."

But this is not all. The grammarian may also be interested in fine speech or writing. Here we have an intentional departure from the description of speech to turn to the establishment of norms. Grammarians in this sense set patterns that they believe ought to be followed. The study now is usage or aesthetic. As such it differs from the interest in language as sheer human behavior or social intercourse. And so while the grammarian is still concerned with behavior he is now beyond the range of simple psychology. No longer limited by psychological rules he is governed by the canons of etiquette or aesthetics.

We conclude. Linguistic coöperation between philologist and psychologist is both possible and necessary. But to this coöperation there are definite limits. Our interest, however, has been merely to examine the psychologist's expulsion from the Eden of language. When the scene shifts to the grammarian's quarrying of stones to build historical pyramids, or to his exodus from the psychological Egypt to enter the promised land of aesthetics, the connection between the psychologist and philology takes on an entirely different form.

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